HZ/RC/PE ✓ TX 338 ✓

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Notice of Application and Preliminary Decision for Hazardous Waste Permit/Compliance Plan Modification

Permit/Compliance Plan No. 50326

APPLICATION AND PRELIMINARY DECISION. Philip Reclamation Services, Houston, LLC, is a commercial hazardous and nonhazardous Class 1, 2, and 3 industrial solid waste, processing and storage facility that has applied to the Texas Commission on Environmental Quality (TCEQ) for a Class 3 permit/compliance plan modification to authorize replacement of the current Compliance Monitoring Program with a Corrective Action Program for Area of Concern (AOC) No. 1, add a registered agent for service, correct typographical errors, and to revise applicable permit and compliance plan tables, attachments, maps, and financial assurance. The facility is located at 4050 Homestead Road, Houston, 77028 in Harris County, Texas. The TCEQ received this application on September 29, 2015. The following link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice: http://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.79889&lng=-95.30083&zoom=13&type=r.
For an exact location, refer to application.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit/compliance plan. The draft permit/compliance plan, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit/compliance plan, if issued, meets all statutory and regulatory requirements. The permit/compliance plan application, Executive Director's preliminary decision, and draft permit/compliance plan are available for viewing and copying at the McCrane-Kashmere Gardens Library, 5411 Pardee Street, Houston, Texas 77026.

PUBLIC COMMENT / PUBLIC MEETING. The applicant **held a public meeting at 4:00 p.m. on November 20, 2015 at 4050 Homestead Road, Houston, Texas 77028. You may submit additional public comments or request another public meeting about this application.** The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: **your name; address, phone; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you raised during the comment period and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.**

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn.

If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law that are relevant and material to the Commission's decision on the application submitted during the comment period.

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the *[permit/compliance plan]* and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. To be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted within 45 days from the date of newspaper publication of this notice either electronically at www.tceq.texas.gov/about/comments.html or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. If you choose to communicate with the TCEQ electronically, please be aware that your email address, like your physical mailing address, will become part of the agency's public record. For more information about this permit application, the permitting process, or the permittee's compliance history during the life of the permit being modified, please call the TCEQ's Public Education Program, Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Mr. John Black at the address stated above or by calling Mr. Jim Renfroe at (713) 679-2309.

Issuance Date: June 13, 2016

HZ/RC/PE

RECEIVED
SEP 19 2016

Hazardous Waste Permit No. 50326
EPA ID. No. TXD0744196338
ISWR No. 30271

This permit supersedes and replaces
Hazardous Waste Permit No. 50326
Issued January 27, 2011

Texas Commission on Environmental Quality
Austin, Texas

Permit for Industrial Solid Waste Management Site issued under provisions of Texas Health and Safety Code ANN. Chapter 361 and Chapter 26 of the Texas Water Code

Name of Permittee:	Philip Reclamation Services, Houston, LLC 4050 Homestead Road Houston, Texas 77028
Site Owner:	Philip Reclamation Services, Houston, LLC 4050 Homestead Road Houston, Texas 77028
Registered Agent for Service:	CT Corporation 1999 Bryan Street, Suite 900 Dallas, Texas 75201-3136
Classification of Site:	Hazardous and Nonhazardous Class 1, Class 2, and Class 3 industrial solid waste on-site storage and processing, commercial facility.

The permittee is authorized to manage wastes in accordance with the limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules of the Commission and other Orders of the Commission, and laws of the State of Texas. This permit does not exempt the permittee from compliance with the Texas Clean Air Act. This permit will be valid until canceled, amended, modified or revoked by the Commission, except that the authorization to store and process wastes shall expire midnight, ten (10) years after the date of renewal permit approval. This permit was originally issued on September 30, 1999. This permit/compliance plan was renewed on January 27, 2011.

All provisions in this permit stem from State and/or Federal authority. Those provisions marked with an asterisk (*) stem from Federal authority and will implement the applicable requirements of HSWA for which the Texas Commission on Environmental Quality has not been authorized.

Issued Date: September 1, 2016

R. A. Hyde
For the Commission

Table of Contents

List of Tables:

CP Tables

List of Attachments:

A - Legal Description of Facility
B - Facility Map
C - List of Incorporated Application Materials
D - List of Permitted Facility Units

List of Compliance Plan Attachments:

CP A Facility Site Maps
Sheet 1 of 4 Facility Site Map
Sheet 2 of 4 Solid Waste Management Unit Location Map
Sheet 3 of 4 Plume Management Zone and Well Location Map
Sheet 4 of 4 Affected Property and PCLE Zone Map
CP B Public Participation in HSWA Corrective Action
CP C Well Design, Construction, Installation, Certification, Plugging and Abandonment Procedures and Specifications

Permit/Compliance Plan Acronyms

ACL – Alternate Concentration Limit
ALR – Action Leakage Rate
AMP – Attenuation Monitoring Point
AOC – Area(s) of Concern
APA – Affected Property Assessment
APAR – Affected Property Assessment Report
APOE – Alternate Point of Exposure
Appendix VIII – 40 CFR 261, Appendix VIII (Identification and Listing of Hazardous Waste - Hazardous Constituents)
ASTM – American Society for Testing and Materials
BGS – Below Ground Surface
BLRA – Baseline Risk Assessment
CAO – Corrective Action Observation
CAS – Corrective Action System
CCC – Coastal Coordination Council
CEMS – Continuous Emissions Monitoring System
CFR – Code of Federal Regulations
CMI – Corrective Measures Implementation
CMP – Texas Coastal Management Program
CMS – Corrective Measures Study
COC – Constituent(s) of Concern
EPA – United States Environmental Protection Agency
EPA SW-846 – Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition, November 1986
GWPS – Groundwater Protection Standard
HSWA – Hazardous and Solid Waste Amendments of 1984
ICM – Interim Corrective Measures
LDR – Land Disposal Restrictions
MDL – Method Detection Limit
MQL – Method Quantitation Limit
MSL – Mean Sea Level
NAPL – Non-Aqueous Phase Liquid
NOR – Notice of Registration
PCB – Polychlorinated Biphenyl
PCL – Protective Concentration Level
PMZ – Plume Management Zone
POC – Point of Compliance
POE – Point of Exposure
ppm – Parts Per Million
ppmv – Parts Per Million by Volume
PQL – Practical Quantitation Limit
Psi – Pounds per Square Inch
QA/QC – Quality Assurance/Quality Control
RACR – Response Action Completion Report
RAER – Response Action Effectiveness Report
RAP – Response Action Plan (for Action Leakage Rate in landfills)
RAP – Remedial Action Plan
RCRA – Resource Conservation and Recovery Act
RFA – RCRA Facility Assessment

RFI – RCRA Facility Investigation
RRR – TCEQ Risk Reduction Rules
RSA –Remedy Standard A
RSB –Remedy Standard B
SR/WM – Source Reduction and Waste Minimization
SSI – Statistically Significant Increase
SWDA – Solid Waste Disposal Act
SWMU – Solid Waste Management Unit(s)
TAC – Texas Administrative Code
TCEQ – Texas Commission on Environmental Quality
TCEQ QAPP – "Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act and Underground Injection Control"
THC – Total Hydrocarbons
TRRP – Texas Risk Reduction Program

I. Facility Description

A. Size and Location of Site

A permit is issued to Philip Reclamation Services, Houston, LLC (hereafter called the permittee), to operate a hazardous waste processing and storage facility located at 4050 Homestead Road, Houston, in Harris County, Texas, and within the drainage area of Segment 1007 in the San Jacinto River Basin (North Latitude 29° 47' 56", West Longitude 95° 18' 03"). The legal description of the facility submitted in Permit No. 50326 application dated September 16, 2015, is hereby made a part of this permit as "Attachment A". The hazardous waste management facility as delineated by the permittee's application map is hereby made a part of this permit as "Attachment B".

B. Incorporated Application Materials

This permit is based on, and the permittee shall follow the Part A and Part B Industrial & Hazardous Waste Application submittals dated July 1, 2009, the Application Elements listed in "Attachment C", the Compliance Plan Application dated July 1, 2009, and the following amendments/modifications to the permit, which are hereby approved subject to the terms of this permit and any other orders of the Texas Commission on Environmental Quality (TCEQ):

Permit Modification /Amendment	Submittal /Revision Date	Description of Change
Class 3 modification	16 September 2015 and revised on March 22, 2016	Incorporate a Corrective Action Program (PMZ for AOC No. 1), remove 3 waste streams, add Registered Agent for Service, include 2 inactive tanks; and revises applicable permit and CP tables, attachments, maps, and financial assurance

These materials are incorporated into this permit by reference as if fully set out herein. Any and all revisions to these elements shall become conditions of this permit upon the date of approval by the Commission.

II. General Facility Standards

A. Standard Permit Conditions

The permittee has a duty to comply with the Standard Permit Conditions under 30 Texas Administrative Code (TAC) Section 305.125. Moreover, the permittee has a duty to comply with the following permit conditions:

1. Modification of Permitted Facilities

The facility units and operational methods authorized are limited to those described herein and by the application submittals identified in Permit Section I.B. All facility units and operational methods are subject to the terms and conditions of this permit and TCEQ rules. Prior to constructing or operating any facility units in a manner which differs from either the related plans and

specifications contained in the permit application or the limitations, terms or conditions of this permit, the permittee must comply with the TCEQ permit amendment/modification rules as provided in 30 TAC Sections 305.62 and 305.69.

2. Duty to Comply

The permittee must comply with all the conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency order issued by the Commission. Any permit noncompliance, other than noncompliance authorized by an emergency order, constitutes a violation of the Resource Conservation and Recovery Act (RCRA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [30 TAC Section 305.142]

3. Severability

The provisions of this permit are severable. If any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

4. Definitions

For purposes of this permit, terms used herein shall have the same meaning as those in 30 TAC Chapters 305, 335, and 350 unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

Application data - data used to complete the final application and any supplemental information.

5. Permit Expiration

In order to continue a permitted activity after the expiration date of the permit the permittee shall submit a new permit application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Executive Director. Authorization to continue such activity will terminate upon the effective denial of said application.

6. Certification Requirements

For a new facility, the permittee may not commence storage, processing, or disposal of solid waste; and for a facility being modified, the permittee may not process, store or dispose of solid waste in the modified portion of the facility, except as provided in 30 TAC Section 305.69 (relating to Solid Waste Permit Modification at the Request of the Permittee) until the following has been accomplished [30 TAC Section 305.144]:

a. The permittee has submitted to the Executive Director and the local Regional Office of the TCEQ, by certified mail or hand delivery, a letter signed by the

permittee, and signed and sealed by a Texas Professional Engineer stating that the facility has been constructed or modified in compliance with the permit. If the certification is being provided to document proper closure of a permitted unit, or to certify installation or repair of a tank system, then the certification must be signed and sealed by an independent Texas licensed Professional Engineer. Required certification shall be in the following form:

"This is to certify that the following activity (specify activity, e.g., construction, installation, closure, etc., of an item) relating to the following item (specify the item, e.g., the particular facility, facility unit, unit component, subcomponent part, or ancillary component), authorized or required by TCEQ Permit No. 50326 has been completed, and that construction of said facility component has been performed in accordance with and in compliance with good engineering practices and the design and construction specifications of Permit No. 50326."

b. A certification report has been submitted, with the certification described in Provision II.A.6.a., which is logically organized and describes in detail the tests, inspections, and measurements performed, their results, and all other bases for the conclusion that the facility unit, unit component, and/or closure have been constructed, installed and/or performed in conformance with the design and construction specifications of this permit and in compliance with this permit. The report shall describe each activity as it relates to each facility unit or component being certified including reference to all applicable permit provisions. The report shall contain the following items, at a minimum:

(1) Scaled, as-built plan-view and cross-sectional drawings which accurately depict the facility unit and all unit components and subcomponents and which demonstrate compliance with the design and construction specifications approved and detailed in the terms of this permit;

(2) All necessary references to dimensions, elevations, slopes, construction materials, thickness and equipment; and

(3) For all drawings and specifications, the date, signature, and seal of a Professional Engineer who is licensed in the State of Texas.

c. The Executive Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or if within fifteen (15) days of submission of the letter required by paragraph (a) of this section, the permittee has not received notice from the Executive Director of the intent to inspect, prior inspection is waived and the permittee may commence processing, storage, or disposal of solid waste.

* 7. Land Disposal Restrictions

The permittee shall comply with the land disposal restrictions as found in 40 Code of Federal Regulations (CFR) 268 and any subsequent applicable requirements promulgated through the Federal Register. Requirements include modifying/amending the permittee's waste analysis plan to include analyses to determine compliance with applicable treatment standards or prohibition levels, pursuant to 40 CFR 268.7(c) and 264.13(a).

8. Dust Suppression

   Pursuant to 40 CFR 266.23(b)/30 TAC Section 335.214(b), the permittee shall not use waste, used oil, or any other material which is contaminated with dioxin, polychlorinated biphenyls (PCBs), or any other hazardous waste (other than a waste identified solely on the basis of ignitability) for dust suppression or road treatment.

9. Permit Reopener

   This permit shall be subject to review by the Executive Director five (5) years from the date of permit issuance or reissuance and shall be modified as necessary to assure that the facility continues to comply with currently applicable requirements of the Solid Waste Disposal Act (SWDA) and the rules and regulations of the Commission. The permittee shall submit any information as may be reasonably required by the Executive Director to ascertain whether the facility continues to comply with currently applicable requirements of the SWDA and the rules and regulations of the Commission.

10. Texas Coastal Management Program

    The TCEQ has reviewed the permit application for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the Coastal Coordination Council (CCC) and has determined that the permit is consistent with the applicable CMP goals and policies. [30 TAC Section 281.43(a)(1)]

11. Monitoring of Commercial Hazardous Waste Management Facility Operations

    Within the first year after Commission initial action on this permit and any subsequent amendment, modification, transfer, extension, or renewal of this permit, the permittee shall provide notice to affected persons of the intent to have an independent annual environmental audit of the facility performed. The notice shall be issued in accordance with the requirements of 30 TAC Section 305.147(1). If an affected party requests the audit, then the permittee must follow the requirements of 30 TAC Sections 305.147(2)-(6), and (8), for selecting an independent inspector, paying for the notice and audit, submission of a written report, and determining the scope of the inspection.

12. Failure to Submit Relevant Facts in Permit Application

    Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the Executive Director, the permittee shall promptly submit the correct information or facts to the Executive Director. [30 TAC Section 305.125(19)]

13. Hazardous Waste Combustion Facility Provision (Reserve)

14. Waste Management Fee Assessment, Fee Payment, and Records and Reporting

    a. If applicable, the permittee is subject to the assessment of fees for hazardous wastes which are stored, processed, disposed, or otherwise managed and for

Class 1 industrial wastes which are disposed at a commercial facility. [30 TAC Section 335.325]

b. As applicable and except as provided in Provision II.A.14.c., the permittee shall pay waste management fees monthly. Monthly fee payments shall be due by the 25th day following the end of the month for which payment is due. [30 TAC Section 335.328(b)]

c. If required, the permittee owes waste management fees in an amount less than $500 for a calendar month or less than $1,500 for a calendar quarter, the permittee may file a quarterly report and pay a quarterly fee. [30 TAC Section 335.328(c)]

d. If required, the permittee shall document the basis for the assessment of any applicable waste management fees, including any adjustment to or exemption from assessment. [30 TAC Section 335.329(b)(4)]

e. If required, the permittee shall submit a monthly report of on-site waste management activities subject to the assessment of waste management fees on forms furnished or approved by the Executive Director. This report shall be due by the 25th day following the end of the month (or quarter) for which a report is made. Monthly (or quarterly) reports shall be submitted, regardless of whether any storage, processing, or disposal was made during a particular month (or quarter), by preparing and submitting a summary indicating that no waste was managed during that month (or quarter). [30 TAC Section 335.329(b)(5)]

f. As applicable, the permittee shall maintain the required records and reports in accordance with 30 TAC Sections 335.329(c) and (d).

15. Transfer of Ownership and/or Operational Control

The transfer of ownership and/or operational control of this permit is subject to the transfer requirements of 30 TAC Section 305.64 and permit modification requirements of 30 TAC Section 305.69. The new owner and/or operator seeking a transfer of ownership and/or operational control of this permit shall submit a Class 1 permit modification (with prior written approval by the Executive Director) at least 90 days prior to the scheduled transfer in accordance with 30 TAC Section 305.69(b)(2). Prior to the Executive Director issuing the permit modification transferring the permit, the new owner or operator shall provide a fully executed financial assurance mechanism satisfactory to the TCEQ Executive Director, for all existing units which have received waste and any corrective action required under this permit, in compliance with 30 TAC Chapter 37, Subchapter P. [30 TAC Section 305.64(g)]

B. Recordkeeping and Reporting Requirements

1. Monitoring and Records

a. All data submitted to the TCEQ shall be in a manner consistent with the latest version of the "Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act and Underground Injection Control" (TCEQ QAPP).

b. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be the appropriate method from Appendix I of 40 CFR Part 261 or an equivalent method approved in writing prior to use by the Executive Director of the TCEQ. Laboratory methods shall be the latest version specified in current edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846 (EPA SW-846); Standard Methods for the Examination of Water and Wastewater; RCRA Groundwater Monitoring: Draft Technical Guidance, 1992, OSWER Directive 9950.1, or an equivalent method;, as specified in the Waste Analysis Plan, Section IV of the Part B Application, and approved in writing prior to use by the Executive Director. [30 TAC Section 305.125(11)(A)]

c. The permittee shall retain in an organized fashion and furnish to the Executive Director, upon request, records of all monitoring information, copies of all reports and records required by this permit, and the certification required by 40 CFR 264.73(b)(9), for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or application. [30 TAC Section 305.125(11)(B)]

d. Records of monitoring shall include the following [30 TAC Section 305.125(11)(C)]:

(1) The date, time, and place of sample or measurement;

(2) The identity of individual who collected the sample or measurement;

(3) The dates analyses were performed;

(4) The identity of individual and laboratory who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses or measurements.

2. Operating Record

In addition to the recordkeeping and reporting requirements specified elsewhere in this permit, the permittee shall maintain a written operating record at the facility, in accordance with 40 CFR 264.73. These records will be made available to representatives of the TCEQ upon request.

3. Retention of Application Data

Throughout the terms of the permit, the permittee shall keep records of data used to complete the final application and any supplemental information. All copies of renewals, amendments, revisions and modifications must also be kept at the facility such that the most current documents are available for inspection at all times. All materials, including any related information, submitted to complete the application shall be retained, not just those materials which have been incorporated into the permit. [30 TAC Section 305.47]

4. Reporting of Noncompliance

The permittee shall report to the Executive Director of the TCEQ information regarding any noncompliance which may endanger human health or the environment. [30 TAC Section 305.125(9)]

a. Report of such information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the noncompliance.

b. A written submission of such information shall also be provided within five (5) days of the time the permittee becomes aware of the noncompliance. The written submission shall contain the following:

(1) A description of the noncompliance and its cause;

(2) The potential danger to human health or safety, or the environment;

(3) The period of noncompliance, including exact dates and times;

(4) If the noncompliance has not been corrected, the anticipated time it is expected to continue; and

(5) Steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance, and to mitigate its adverse effects.

5. Twenty-Four Hour Reporting

The following shall be included as information which must be reported orally within twenty-four (24) hours pursuant to 30 TAC Section 305.125(9) [30 TAC Section 305.145]:

a. Information concerning release of any solid waste that may cause an endangerment to public drinking water supplies; and

b. Any information of a release or discharge of solid waste, or of a fire or explosion which could threaten the environment or human health or safety, outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health or safety outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

6. Notice Waiver

The Executive Director may waive the five (5) day written notice requirement specified in Provision II.B.4.b. in favor of a written report submitted to the Commission within fifteen (15) days of the time the permittee becomes aware of the noncompliance or condition. [30 TAC Section 305.145(b)]

7. Biennial Report

The permittee shall prepare and submit to the Executive Director all information and records required by 40 CFR 264.75. By March 1st of each even-numbered year for the preceding odd-numbered year's activities the permittee shall submit either a Biennial Report or letter certifying submission of the above. One copy of the report/letter shall be submitted to the TCEQ Industrial & Hazardous Waste Permits Section and an additional copy shall be submitted to the appropriate TCEQ Regional Office.

8. Pollution Prevention

Facilities subject to 30 TAC Chapter 335, Subchapter Q - Pollution Prevention: Source Reduction and Waste Minimization must prepare a five (5) year Source Reduction and Waste Minimization Plan and submit a Source Reduction and Waste Minimization (SR/WM) Annual Report to the TCEQ Small Business and Environmental Assistance Division. This report must be submitted annually on the dates specified in the rule.

9. Waste Minimization

The permittee shall annually certify, by January 25th for the previous calendar year, the following information [40 CFR 264.73(b)(9)]:

a. That the permittee has a program in place to reduce the volume and toxicity of all hazardous wastes which are generated by the permittee's facility operation to the degree determined to be economically practicable; and

b. That the proposed method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment. This waste minimization certification is to be included in the facility operating records until closure.

10. Annual Detection Monitoring Report (Reserved)

11. Manifest Discrepancy Report

If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen (15) days, the permittee must submit a report, describing the incident, to the Executive Director, as per the requirements of 30 TAC Section 335.12. A copy of the manifest must be included in the report.

12. Unmanifested Waste Report

A report must be submitted to the Executive Director within fifteen (15) days of receipt of unmanifested waste, as per the requirements of 30 TAC Section 335.15(3).

13. Monthly Summary

The permittee shall prepare a monthly report, of all manifests received during the month, summarizing the quantity, character, transporter identity, and the method of storage, processing and disposal of each hazardous waste or Class 1 waste shipment received, itemized by manifest document number. This monthly summary report shall be submitted to the TCEQ Registration and Reporting Section on or before the 25th day of each month for waste received during the previous month. [30 TAC Section 335.15(2)]

C. Incorporated Regulatory Requirements

1. State Regulations

To the extent applicable to the activities authorized by this permit, the following TCEQ regulations are hereby made provisions and conditions of the permit.

a. 30 TAC Chapter 37, Subchapter P, Financial Assurance for Hazardous and Nonhazardous Industrial Solid Waste Facilities;

b. 30 TAC Chapter 305, Subchapter A: General Provisions;

c. 30 TAC Chapter 305, Subchapter C: Application for Permit;

d. 30 TAC Sections 305.61 - 305.69 (regarding amendments, renewals, transfers, corrections, revocation and suspension of permits);

e. 30 TAC Sections 305.121 - 305.125 (regarding permit characteristics and conditions);

f. 30 TAC Sections 305.127 - 305.129 (regarding permit conditions, signatories and variance procedures);

g. 30 TAC Chapter 305, Subchapter G: Additional Conditions for Hazardous and Industrial Solid Waste Storage, Processing and Disposal Permits;

h. 30 TAC Chapter 335, Subchapter A, Industrial Solid Waste and Municipal Hazardous Waste in General;

i. 30 TAC Chapter 335, Subchapter B, Hazardous Waste Management General Provisions;

j. 30 TAC Section 335.152, Standards;

k. 30 TAC Sections 335.153 - 335.155 (regarding reporting of emergency situations and additional reports required);

l. 30 TAC Sections 335.156 - 335.167 (regarding applicability of groundwater monitoring programs and corrective action requirements);

m. 30 TAC Sections 335.175 - 335.176 (regarding special requirements for containers and bulk and containerized waste);

n. 30 TAC Sections 335.177 - 335.179 (regarding general performance standard, cost estimate for closure, and financial assurance);

o. 30 TAC Sections 335.325, 335.328 and 335.329 (regarding waste management fee assessment, fee payment, and records and reports);

p. 30 TAC Chapter 335, Subchapter Q, Pollution Prevention: Source Reduction and Waste Minimization; and

q. 30 TAC Chapter 350, Texas Risk Reduction Program.

Issuance of this permit with incorporated rules in no way exempts the permittee from compliance with any other applicable state statute and/or Commission Rule.

2. Federal Regulations

To the extent applicable to the activities authorized by this permit, the following provisions of 40 CFR Parts 264 and Part 268, adopted by reference by 30 TAC Section 335.152 and 335 Subchapter O are hereby made provisions and conditions of this permit, to the extent consistent with the Texas Solid Waste Disposal Act, Texas Health and Safety Code Ann., Chapter 361 (Vernon), and the rules of the TCEQ:

a. Subpart B -- General Facility Standards;

b. Subpart C -- Preparedness and Prevention;

c. Subpart D -- Contingency Plan and Emergency Procedures;

d. Subpart E -- Manifest System, Recordkeeping, and Reporting;

e. Subpart G -- Closure and Post-Closure;

f. Subpart H -- Financial Requirements;

g. Subpart I -- Use and Management of Containers;

h. Subpart J -- Tank Systems;

i. Subpart AA -- Air Emission Standards for Process Vents;

j. Subpart BB -- Air Emission Standards for Equipment Leaks;

k. Subpart CC -- Air Emission Standards for Tanks, Surface Impoundments, and Containers;

l. 40 CFR Part 268 -- Land Disposal Restrictions (LDR).

III. Facility Management

A. Operation of Facility

The permittee shall construct, maintain, and operate the facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by 40 CFR 264.31. All equipment and structures used to manage hazardous waste at the facility shall be maintained in proper operating condition.

B. Personnel Training

The permittee shall ensure that all facility personnel involved with hazardous waste management successfully complete a training program as required by 40 CFR 264.16. The permittee shall maintain training documents and records, as required by 40 CFR 264.16(d) and (e).

C. Security

1. The permittee shall provide a twenty-four (24) hour surveillance system which continuously monitors and controls entry onto the active portion of the facility.

2. The permittee shall post warning signs at all points of access to the active waste management portion(s) of the facility and along the natural and/or artificial barriers in sufficient numbers to be seen from any approach to that (those) portion(s) of the facility. The signs shall be printed so that they may be clearly read from a distance of at least twenty-five (25) feet, and shall state "Danger - Unauthorized Personnel Keep Out" in English and in Spanish.

D. General Inspection Requirements

The permittee shall follow the inspection schedule contained in the permit application submittals identified in Section I.B. of this permit and as set out in Table III.D. - Inspection Schedule. The permittee shall remedy any deterioration or malfunction discovered by an inspection, as required by 40 CFR 264.15(c). Records of inspection shall be kept, as required by 40 CFR 264.15(d). Any remedial actions taken in response to facility inspections and the date of the remediation shall be included in the inspection records.

E. Contingency Plan

1. The permittee shall follow the Contingency Plan, developed in accordance with 40 CFR Part 264 Subpart D, and contained in the permit application submittals identified in Section I.B. of this permit. Copies of this plan shall be available to all employees involved in waste management at the facility.

2. The permittee shall immediately initiate clean-up procedures for removal of any spilled hazardous or industrial nonhazardous wastes and waste residues and shall take all steps necessary to prevent surface water or groundwater contamination as a result of any spills.

3. Collected hazardous or industrial nonhazardous wastes, spills, leaks, clean-up residues, and contaminated rainfall runoff, including contaminated stormwater from the drainage control system(s) associated with the permitted units, shall be removed promptly after the spillage and/or rainfall event in as timely a manner as is necessary to prevent overflow of the system by the following method(s):

   a. Removal to an on-site authorized facility unit;

   b. Removal to an authorized industrial solid waste management facility or authorized off-site facility; or

   c. Discharge in accordance with a wastewater discharge permit.

4. The permittee shall ensure that any equipment or vehicles which have come in contact with waste in the loading/unloading, storage, processing, and/or disposal areas have been decontaminated prior to their movement into designated uncontaminated areas of the site property. At a minimum, all contaminated equipment shall be externally decontaminated and contaminated vehicles shall have their undercarriages and tires or tracks decontaminated to remove all waste residues and to prevent contamination of uncontaminated areas. All wash water generated shall be collected and disposed of in accordance with Provision III.E.3.

5. Preparedness and Prevention

   a. At a minimum, the permittee shall equip the facility as set forth in Table III.E.3. - Emergency Equipment contained in the permit application identified in Section I.B. of this permit, as required by 40 CFR 264.32.

   b. All sumps, pumps, fire- and spill-control equipment, decontamination equipment, and all other equipment and structures authorized or required through the Contingency Plan shall be tested and maintained, as necessary, to assure its proper operation in time of emergency, as required by 40 CFR 264.33.

   c. The permittee shall maintain access to the communications or alarm system, as required by 40 CFR 264.34.

   d. A trained emergency coordinator shall be available at all times in case of an emergency and will have the responsibility for coordinating all emergency response measures as required by 40 CFR 264.55 and 264.56. Emergency number(s) shall be posted in all waste management portions of the facility and all employees in those areas shall be trained in the location of those postings.

F. Special Permit Conditions (Reserved)

IV. Wastes and Waste Analysis

A. Waste Analysis Plan

The permittee shall follow the Waste Analysis Plan, developed in accordance with 40 CFR 264.13 and the permit application identified in Section I.B. of this permit.

B. Authorized Wastes

1. The permittee is authorized to manage hazardous and non-hazardous industrial solid wastes listed in Table IV.B. - Wastes Managed in Permitted Units, subject to the limitations provided herein.

   Wastes authorized for storage and processing include those generated from off-site sources.

2. Hazardous and Non-hazardous Waste Received From Off-Site Sources

   When the permittee may receive hazardous or non-hazardous waste from an off-site source (except where the permittee is also the generator), the permittee shall inform the generator in writing that the permittee has the appropriate permits and will accept the waste the generator is shipping. The permittee shall keep a copy of this written notice as part of the operating record. [40 CFR 264.12(b)]

3. The wastes authorized in Table IV.B. shall not contain any of the following:

   a. PCB waste, as defined by the Environmental Protection Agency (EPA) in regulations issued pursuant to the Toxic Substances Control Act under 40 CFR Part 761, unless the permittee is compliant with the federal requirements for PCB storage as specified in 40 CFR Part 761;

   b. Radioactive materials/wastes unless the permittee is authorized to store and process these wastes in compliance with specific licensing and permitting requirements under Chapter 401 of the Texas Health and Safety Code. In accordance with 30 TAC Section 336.203, no person shall dispose of radioactive material unless that person has a license or an exemption from the Texas Commission on Environmental Quality (TCEQ) under Texas Health and Safety Code, Section 401.106(a);

   c. Explosive material, as defined by the Department of Transportation under 49 CFR Part 173;

   d. Dioxin-containing wastes, identified by EPA as F020, F021, F022, F023, F026, and F027 wastes in 40 CFR 261.31;

   e. Garbage as defined in 30 TAC Section 330.3(56);

   f. Municipal Solid Waste as defined in 30 TAC Section 330.3(88);

   g. Putrescible Waste as defined in 30 TAC Section 330.3(119); or

   h. Special Waste from Health-Care Related Facilities subject to 25 TAC Part 1 or 30 TAC Chapter 330.

4. Prior to accepting any additional wastes not authorized in Table IV.B., the permittee shall follow the permit amendment or modification requirements listed in 30 TAC Sections 305.62 and 305.69.

5. The permittee may store wastes restricted under 40 CFR Part 268 solely for the purpose of accumulating quantities necessary to facilitate proper recovery, treatment, or disposal provided that it meets the requirements of 40 CFR 268.50(a)(2) including, but not limited to the following:

   a. Clearly marking each container to identify its contents and the date each period of accumulation begins; and

   b. Clearly marking each tank with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.

C. Sampling and Analytical Methods

1. Table IV.C. - Sampling and Analytical Methods, shall be used in conjunction with the Waste Analysis Plan referenced in Section IV.A. of this permit, in performing all waste analyses.

2. The permittee shall ensure that all waste analyses utilized for waste identification or verification have been performed in accordance with methods specified in the current editions of EPA SW-846, American Society for Testing and Materials (ASTM) or other methods accepted by the TCEQ. The permittee shall have a Quality Assurance/Quality Control (QA/QC) program that is consistent with EPA SW-846 and the TCEQ QAPP.

3. Prior to first receipt of LDR wastes, the permittee shall perform corroborative sampling and analysis on the wastes for all applicable LDR constituents in accordance with 40 CFR Part 268. In lieu of corroborative sampling and analysis, the generator may provide a certification, including analytical results, to the permittee verifying the waste meets all applicable LDR standards. Such analysis by the permittee or certification by the generator shall be repeated at least annually. Records shall be maintained demonstrating compliance with the above requirements and shall be kept on site and available for review by TCEQ representatives.

D. Special Provisions for Compressed Gases

Acceptable requirements:

1. All cylinders must be inspected per Compressed Gas Association Pamphlets C-6-1968 and C-8-1962 as appropriate.

2. No cylinders of unknown content shall be accepted.

3. No leaking cylinders shall be accepted.

4. All Cylinder valves must be in the closed position.

5. All valve covers must be in place and remain in place.

6. All cylinders must have their original numbers and markings (ensure no tampering).

V. Authorized Units and Operations

A. Authorized Units

1. The permittee is authorized to operate the permitted facility units listed in "Attachment D" for storage and processing subject to the limitations herein. All waste management activities not otherwise exempted from permitting under 30 TAC Section 335.2 shall be confined to the authorized facility units subject to permitting listed in "Attachment D". References hereinafter in this permit to "TCEQ Permit Unit No.__" shall be to the authorized permitted facility units listed in "Attachment D". All authorized units must be clearly identified as numbered in "Attachment D". These units must have signs indicating "TCEQ Permit Unit No. __".

2. The permittee shall comply with 40 CFR 264.17, relating to general requirements for ignitable, reactive, or incompatible wastes.

3. The permittee shall prevent inundation of any permitted units and prevent any discharges of any waste or runoff of waste contaminated stormwater from permitted units. Additionally, each loading or unloading area, associated with a permitted hazardous or nonhazardous waste management unit, shall be provided with a drainage control system which will collect spills and precipitation in such a manner as to satisfy the following:

   a. Preclude the release from the system of any collected spills, leaks or precipitation;

   b. Minimize the amount of rainfall that is collected by the system; and

   c. Prevent run-on into the system from other portions of the facility.

B. Container Storage Areas

1. Container storage areas are shown in Table V.B. - Container Storage Areas. The permittee is authorized to operate the facility container storage areas for storage and processing subject to the limitations contained herein.

2. Containers holding hazardous waste shall be managed in accordance with 40 CFR 264.171, Condition of containers; 40 CFR 264.172, Compatibility of waste with containers; and 40 CFR 264.173, Management of containers.

3. The permittee shall construct and maintain the containment systems for the container storage areas in accordance with the drawings and details included in the Part B Application identified in Section I.B. At a minimum, the containment system must meet the requirements of 40 CFR 264.175.

C. Tanks and Tank Systems

1. The permitted tank units and their approved waste types are shown in Table V.C. - Tanks and Tank Systems. The permittee is authorized to operate the permitted tank units for storage and processing subject to the limitations contained herein.

2. The permittee shall not place hazardous waste or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail. [40 CFR 264.194(a)]

3. The permittee shall prevent spills and overflows from the tank or containment system as per the requirements of 40 CFR 264.194(b).

4. Secondary containment systems must be provided with a leak-detection system that is operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within twenty-four (24) hours.

5. The permittee shall report to the Executive Director within twenty-four (24) hours of detection when a leak or spill occurs from the tank system or secondary containment system to the environment. [40 CFR 264.196(d)(1)] (A leak or spill of one pound or less of hazardous waste that is immediately contained and cleaned-up need not be reported.) [40 CFR 264.196(d)(2)] (Releases that are contained within a secondary containment system need not be reported.)

6. Within thirty (30) days of detecting a release to the environment from the tank system or secondary containment system, the permittee shall report the following information to the Executive Director: [40 CFR 264.196(d)(3)]

   a. Likely route of migration of the release;

   b. Characteristics of the surrounding soil (including soil composition, geology, hydrology, and climate);

   c. Results of any monitoring or sampling conducted in connection with the release. If the permittee finds it will be impossible to meet this time period, the permittee shall provide the Executive Director with a schedule of when the results will be available. This schedule must be provided before the required thirty (30) day submittal period expires;

   d. Proximity of downgradient drinking water, surface water, and populated areas; and

   e. Description of response actions taken or planned.

7. The permittee shall submit to the Executive Director all certifications of major repairs to correct leaks within seven (7) days of returning the tank system to use. [40 CFR 264.196(f)]

D. Surface Impoundments (Reserved)

E. Waste Piles (Reserved)

F. Land Treatment Units (Reserved)

G. Landfills (Reserved)

H. Incinerators (Reserved)

I. Boilers/Industrial Furnaces (Reserved)

J. Drip Pads (Reserved)

K. Miscellaneous Units (Reserved)

L. Containment Buildings (Reserved)

VI. Groundwater Detection Monitoring (Reserved)

VII. Closure and Post-Closure Requirements

A. Facility Closure

1. The permittee shall follow the Closure Plan, developed in accordance with 40 CFR Part 264 Subpart G, and contained in the permit application submittals identified in Permit Provision I.B. of this permit.

   In addition, facility closure shall commence:

   a. Upon direction of the TCEQ for violation of the permit, TCEQ rules, or state statutes; or

   b. Upon suspension, cancellation, or revocation of the terms and conditions of this permit concerning the authorization to receive, store, process, or dispose of waste materials; or

   c. Upon abandonment of the site; or

   d. Upon direction of the TCEQ for failure to secure and maintain an adequate bond or other financial assurance as required by Provision VII.B.1.

2. Request for Permit Modification or Amendment

   The permittee shall submit a written request for a permit modification or amendment to authorize a change in the approved Closure Plan(s), in accordance with 40 CFR 264.112(c). The written request shall include a copy of the amended Closure Plan(s) for approval by the Executive Director.

3. Time Frames for Modification/Amendment Request Submittal

   The permittee shall submit a written request for a permit modification or amendment in accordance with the time frames in 40 CFR 264.112(c)(3).

4. Closure Notice and Certification Requirements

   a. The permittee shall notify the Executive Director, in writing, at least sixty (60) days prior to the date on which he expects to begin partial or final closure of a surface impoundment, or landfill unit, or final closure of a facility with such a unit; or at least forty-five (45) days prior to the date on which he expects to begin partial or final closure of a facility with processing or storage tanks, container storage, or incinerator units; or at least forty-five (45) days

prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier. A copy of the notice shall be submitted to the TCEQ Regional Office.

b. The permittee shall notify the TCEQ Regional Office at least ten (10) days prior to any closure sampling activity required by the permit in order to afford regional personnel the opportunity to observe these events and collect samples.

5. Unless the Executive Director approves an extension to the closure period, as per the requirements of 40 CFR 264.113(b), the permittee must complete partial and final closure activities within 180 days after receiving the final known volume of hazardous wastes at the hazardous waste management unit or facility.

6. As per the requirements of 40 CFR 264.115, within sixty (60) days of completion of closure of each permitted hazardous waste surface impoundment, or landfill unit, and within sixty (60) days of the completion of final closure, the permittee shall submit to the Executive Director, by registered mail, with a copy to the TCEQ Regional Office, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved Closure Plan and this permit. The certification, which shall be signed by the permittee and by a Professional Engineer licensed in Texas, must be in the form described in Provision II.A.6. A closure certification report shall be submitted with the required certifications which includes a summary of the activities conducted during closure and the results of all analyses performed. The certification report shall contain the information required by Provision II.A.6. and 30 TAC Section 350.32 (Texas Risk Reduction Program (TRRP) Remedy Standard A) and 30 TAC Section 350.33 (TRRP, Remedy Standard B) and 30 TAC Section 350.95 (response Action Completion Report (RACR). Documentation supporting the licensed Professional Engineer's certification shall be furnished to the Executive Director upon request until the Executive Director releases the permittee from the financial assurance requirements for closure under 40 CFR 264.143(i).

7. For each disposal unit closed after permit issuance, the permittee shall submit documentation to demonstrate compliance with 40 CFR 264.116 (relating to survey plat) and 264.119 (relating to post-closure notices). Documentation to demonstrate compliance with survey plat requirements must be submitted to the TCEQ at the time of submission of the certification of closure. Documentation to show compliance with post-closure notices must be submitted to the TCEQ no later than sixty (60) days after certification of closure.

8. Final closure is considered complete when all hazardous waste management units at the facility have been closed in accordance with all applicable closure requirements so that hazardous waste management activities under 40 CFR Parts 264 and 265 are no longer conducted at the facility unless subject to the provisions in 40 CFR 262.34.

9. All units, sumps, pumps, piping and any other equipment or ancillary components which have come in contact with hazardous wastes shall either be decontaminated by removing all waste, waste residues, and sludges or be disposed of at an authorized off-site facility.

10. All contaminated equipment/structures and liners (i.e., debris) intended for land disposal shall be treated in a manner which meets or exceeds the treatment standards for hazardous debris contained in 40 CFR 268.45 or removed and managed at an authorized industrial solid waste management facility. All contaminated dikes and soils intended for land disposal shall be treated in a manner which meets or exceeds the treatment standards for hazardous soils contained in 40 CFR 268.49 or removed and managed at an authorized industrial solid waste management facility.

11. All hard-surfaced areas within the hazardous waste management unit areas shall be decontaminated and the wash water generated treated and/or disposed at an authorized off-site facility.

12. Verification of decontamination shall be performed by analyzing wash water, and as necessary, soil samples for the hazardous constituents which have been in contact with the particular item being decontaminated. In addition, the permittee shall perform visual inspections of the equipment/structures for visible evidence of contamination.

13. Unless it can be demonstrated that soil contamination has not occurred, soils shall be sampled and analyzed. Sufficiently detailed analyses of samples representative of soils remaining in non-hard-surfaced areas of the storage and processing facility area shall be performed to verify removal or decontamination of all waste and waste residues.

14. Soil and/or wash water samples shall be analyzed using laboratory methods specified in Provision II.B.1.b. Equivalent or modified methods must be specified in the Closure Plan and have written approval of the Executive Director prior to use. All data submitted to the TCEQ shall be in a manner consistent with the latest version of the TCEQ QAPP.

15. Decontamination shall be deemed complete when no visible evidence of contamination is observed and when the results from verification sampling and analyses for wash water and soil meet the following criteria:

    a. Decontamination of hard-surfaced areas used for waste management (such as tank interiors, secondary containment structures, ancillary equipment, sumps, loading/unloading docks, etc.) shall be deemed complete when the concentration of each chemical of concern in the final rinsate sample(s) collected from the wash water is below TCEQ Texas Risk Reduction Program (TRRP), Remedy Standard A, Tier 1 Residential Class 1 Groundwater PCL; and

    b. Unless it can be demonstrated that soil contamination has not occurred, underlying soils shall be decontaminated or removed to the TRRP Remedy Standard A, Residential PCL, for no further action. If the underlying soils are decontaminated or removed to the PCL for Remedy Standard A, Commercial/Industrial Land use, the permittee shall comply with the institutional controls requirements of 30 TAC Section 350.111, as required.

B. Financial Assurance for Closure

1. The permittee shall provide financial assurance for closure of all existing permitted units covered by this permit in an amount not less than $925,000 (2015 dollars) as shown on Table VII.E.1. - Permitted Unit Closure Cost Summary. Financial assurance shall be secured and maintained in compliance with 30 TAC Chapter 37, Subchapter P; and 30 TAC Section 335.179. Financial assurance is subject to the following:

   a. Adjustments to Financial Assurance Amount

      (1) At least sixty (60) days prior to acceptance of waste in proposed permitted units listed in Table VII.E.1. - Permitted Unit Closure Cost Summary, the permittee shall increase the amount of financial assurance required for closure by the amounts listed in Table VII.E.1. and shall submit additional financial assurance documentation.

      (2) The amount of financial assurance for closure of existing units, may be reduced by the amount listed in Table VII.E.1. - Permitted Unit Closure Cost Summary, upon certification of closure of an existing permitted unit, in accordance with Provisions VII.A.4. and VII.A.6., and upon written approval of the Executive Director.

   b. Annual Inflation Adjustments

      Financial assurance for closure, including any adjustments after permit issuance, shall be corrected for inflation according to the methods described by 30 TAC Sections 37.131 and 37.141.

2. The permittee shall submit to the Executive Director, upon request, such information as may be required to determine the adequacy of the financial assurance.

C. Storage and Processing Unit Closure Requirements

The permittee shall close the storage and processing unit(s) identified as TCEQ Permit Unit No(s). 001-014, 015A-015E, 028-031, 040, 041, 043, and 044 in accordance with the approved Closure Plans, 40 CFR Part 264, Subpart G, 40 CFR 264.178 (container storage) and 264.197 (tanks) the Texas Risk Reduction Program of 30 TAC Chapter 350 and the following requirements.

If all contaminated soils cannot be removed or decontaminated to TRRP Remedy Standard A (RSA), the permittee shall close the tank system and perform post-closure care in accordance with the closure and post-closure requirements for landfills, 30 TAC Section 335.152(a)(5) and 30 TAC Chapter 350, Subchapter B. A Contingent Closure and Post-Closure Plan must be submitted no later than sixty (60) days (Closure Plan) or ninety (90) days (Post-Closure Care Plan) from the date that the permittee or the Executive Director determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of 30 TAC Section 335.174, or no later than sixty (60) days (Closure Plan) from that date if the determination is made during partial or final closure. Within 90 days of determining that the tank system must be closed as a landfill, the permittee shall submit a permit modification for closure and post-closure as a landfill.

D. Surface Impoundment Closure Requirements (Reserved)

E. Landfill Closure and Certification Requirements (Reserved)

F. Containment Buildings Closure Requirements (Reserved)

G. Facility Post-Closure Care Requirements (Reserved)

H. Financial Assurance for Post-Closure (Reserved)

VIII. Liability Requirements

A. Sudden and Nonsudden Accidental Occurrences

The permittee shall demonstrate continuous compliance with the requirements of 30 TAC Chapter 37 Subchapter P and 30 TAC Section 335.152(a)(6) to maintain liability coverage for sudden and accidental occurrences of at least $1 million per occurrence, with an annual aggregate of at least $2 million, exclusive of legal defense costs.

B. Incapacity of Owners or Operators, Guarantors, or Financial Institutions

The permittee shall comply with 30 TAC Section 37.71, regarding bankruptcy, whenever necessary.

IX. Corrective Action for Solid Waste Management Units

The permittee shall follow Permit Section XI, Compliance Plan, developed in accordance with 30 TAC §§335.156 – 335.167. Any and all revisions to the Compliance Plan shall become provisions and conditions of this permit upon the date of approval by the Commission.

X. Air Emission Standards

A. General Conditions

1. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in Section 382.003 of the Texas Health and Safety Code Ann. or violate Section 382.085 of the Texas Health and Safety Code Ann. If the Executive Director of the TCEQ determines that such a condition or violation occurs, the permittee shall implement additional abatement measures as necessary to control or prevent the condition or violation.

2. The permittee shall include in the Biennial Report, required in Provision II.B.7., a statement that hazardous waste management units or associated ancillary equipment at this facility are not subject to any of the requirements in Provision X.B. and X.C., if these requirements are not applicable to any hazardous waste management units or associated ancillary equipment at this facility. If at any time any hazardous waste management units or associated ancillary equipment become subject to the requirements in Provision X.B. and X.C., the permittee must immediately comply with these requirements.

B. Process Vents

The permittee must comply with the requirements of 30 TAC Section 335.152(a)(17)/40 CFR Part 264 Subpart AA, as applicable.

C. Equipment Leaks

The permittee must comply with the requirements of 30 TAC Section 335.152(a)(18)/40 CFR Part 264, Subpart BB, as applicable.

D. Tanks and Containers

The permittee must comply with the requirements of 40 CFR Part 264, Subpart CC, as applicable.

XI. Compliance Plan

A. General Information (and Applicability)

1. The term "Uppermost Aquifer" as referenced in this Compliance Plan refers to the uppermost groundwater bearing unit (GWBU) encountered across the facility boundary generally occurs as a two to eight plus foot thick wet saturated Sandy to Silty Clay and Clayey to Sandy Silt starting at a depth of about 17 feet below grade in the Beaumont Clay of the Upper Chicot Aquifer. The first transmissive zone ranges in elevation from approximately 31 to 21 feet above Mean Sea Level (MSL). The potentiometric surface of the groundwater is typically encountered from 3 to 7 feet BGS. Language for both the Corrective Action Program (30 TAC Section 335.166) and the Compliance Monitoring Program (30 TAC Section 335.165) is included in this Compliance Plan for reference and as contingency for future changes in accordance with Provision XI.D.6. Applicability of specific Corrective Action Program or Compliance Monitoring Program requirements depends on the status of the units, as defined in Provisions XI.A.2. through A.4. and CP Table I.

2. The Compliance Plan is specific to the waste management units listed in CP Table I (Items A and B) and depicted in CP Attachment A, for which the groundwater Corrective Action Program and Compliance Monitoring Program apply, pursuant to 30 TAC Sections 335.166 and 335.165, for releases from RCRA-regulated units.

3. The Compliance Plan is specific to the waste management units listed in CP Table I (Item D) and depicted in CP Attachment A, for which alternative requirements for the groundwater Corrective Action Program apply, pursuant to 30 TAC Sections 335.151, 335.156 and Chapter 350, for commingled releases from RCRA-regulated units and one or more SWMUs and/or AOC.

4. The Compliance Plan is specific to the SWMU and/or AOC listed in CP Table I (Item C) and depicted in Attachment A, for which the Corrective Action Program applies pursuant to 30 TAC Section 335.167 and Chapter 350 for releases from the SWMUs.

5. The Compliance Plan is specific to the SWMU and/or AOC listed in CP Table II for which investigation and necessary corrective action applies pursuant to 30 TAC Section 335.167 and Chapter 350 and Permit Section XI.H.

6. The Compliance Plan applies to any SWMU and/or AOC discovered subsequent to issuance of this Compliance Plan. The permittee shall notify the Executive Director within fifteen (15) days of such a discovery. Within forty-five (45) days of discovering a SWMU or AOC, the permittee shall complete the following: Submit a RFA report for that SWMU and/or AOC which shall be based on EPA RCRA Facility Assessment Guidance, October 1986, NTIS PB 87-107769 or subsequent revisions. The purpose of the RFA is to identify releases or potential releases of hazardous waste, hazardous constituents or other constituents of concern from SWMU and/or AOC that may require corrective action. If the RFA indicates there is no release, the permittee shall submit the RFA report to document results and the requirements of 30 TAC Chapter 350 shall not apply. However, if the RFA indicates that there is a release or a potential for release that warrants further investigation, the permittee shall conduct an investigation and necessary corrective action based on 30 TAC Chapter 350 requirements, applicable guidance, and the approved schedules in accordance with Permit Section XI.H. Upon written approval of the RFA, the permittee shall include the newly discovered SWMU and/or AOC with each groundwater report in accordance with CP Table VII, and include the new SWMU and/or AOC on CP Tables I or II as appropriate, with the next Compliance Plan modification, amendment or renewal.

7. All dates in this Compliance Plan shall be referenced to the date of issuance of this Permit by the TCEQ unless otherwise specified. This Compliance Plan was developed based on the Compliance Plan Application dated July 1, 2009, and as based on the Class 3 permit and compliance plan modification application dated September 16, 2015, and as revised on March 22, 2016, which also includes a Sampling & Analysis Plan dated September 16, 2015.

B. Authorized Components and Functions of Corrective Action and Compliance Monitoring Systems

Corrective Action Systems are required for units specified in CP Table I, Items A, C and D. The permittee is authorized to install and operate the Corrective Action System components specified in Provisions XI.B.1. through XI.B.10., subject to the limitations contained herein. Compliance Monitoring System components for units listed in CP Table I, Item B are specified below in Provision XI.B.11.

Corrective Action Systems:

1. Groundwater monitoring system may at a minimum consist of the following categories of wells listed in CP Table V, to monitor groundwater quality. An application to modify or amend the Compliance Plan is required to change the category or wells listed in CP Table V.

   a. Background Well(s) unaffected by the operation of the facility.

   b. POC Wells to demonstrate compliance with the Groundwater Protection Standard (GWPS).

   c. Point of Exposure (POE) Wells, to demonstrate compliance with the GWPS and evaluate the effectiveness of the remediation program.

d. Alternate Point of Exposure (APOE) Wells to demonstrate compliance with the GWPS at a location other than the prescribed POE; and in maintaining a Plume Management Zone (PMZ) in accordance with 30 TAC Section 350.33.

2. The permittee is authorized to install and operate the following additional corrective action system wells to monitor groundwater quality and hydrogeological conditions of the aquifer as designated in CP Attachment A. The permittee may propose changes to the following corrective action system wells as part of the reporting requirements in CP Table VII (Item 12) and shall become part of the Compliance Plan upon approval by the Executive Director. The purpose is to provide the permittee with the flexibility to alter the groundwater monitoring system and Corrective Action System designs, as necessary, to proactively address changing environmental conditions without modification or amendment to the Compliance Plan.

   a. Corrective Action Observation (CAO) Wells to evaluate the lateral and vertical extent of groundwater contamination in the Uppermost Aquifer and evaluate the effectiveness of the remediation program.

   b. Corrective Action System (CAS) Wells to remediate and/or contain contaminated groundwater.

   c. Attenuation Monitoring Point (AMP) Wells, located within the migration pathway of a chemical of concern, which demonstrates that Attenuation Action Levels (AALs) representing critical Protective Concentration Levels (PCLs) established as the GWPS will not be exceeded at the applicable point of exposure.

   d. Supplemental Wells to gauge hydrogeologic conditions of the aquifer.

3. Groundwater Corrective Action System to effect withdrawal, treatment, and/or containment of contaminated groundwater and non-aqueous phase liquids (NAPLs) by means of recovery wells, interceptor trenches, bioremediation, air sparging and/or another alternate Corrective Action System design. Any alternate Corrective Action System designs proposed by the permittee subsequent to issuance of this Compliance Plan that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the Compliance Plan upon approval by the Executive Director. The type of Corrective Action System in operation at the facility and an evaluation of system performance shall be reported in accordance with CP Table VII.

4. Collection and conveyance system to store recovered groundwater and NAPLs, if found, prior to disposal at authorized facilities. If the recovered groundwater is characteristically hazardous and/or is contaminated with listed hazardous waste and the collection system does not meet the wastewater treatment unit exemption under 30 TAC Sections 335.2(f) and 335.41(d), the collection system shall comply with the following regulations: 1) If the contaminated groundwater is stored for less than ninety (90) days without a permit or interim status, then the container and tank collection systems shall comply with provisions of 30 TAC Section 335.69(a)(1) / 40 CFR Part 265 Subparts I and J; 2)

If the contaminated groundwater is stored for more than ninety (90) days, then the container and tank collection system shall comply with the provisions of 30 TAC Section 335.152(a)(7) and (8) / 40 CFR Part 264 Subparts I and J. The collection and conveyance system shall consist of the following components.

a. A groundwater CAS.

b. A groundwater storage system.

c. Appurtenances for the collection and conveyance of recovered contaminated groundwater and NAPLs, if applicable.

5. Treatment system to reduce the concentration of hazardous constituents in contaminated groundwater to the GWPS specified in CP Table III by means of biological, physical, and chemical treatment processes.

6. Groundwater containment system to inhibit contaminated groundwater above CP Table III GWPS from migrating beyond the influence of the CAS.

7. Reinjection of fresh or recovered groundwater, after treatment, into the contaminated aquifer in accordance with 30 TAC Sections 331.9 and 331.10.

8. The following handling methods are authorized for recovered groundwater having concentrations of hazardous constituents exceeding the GWPS:

   a. Treatment through an on-site wastewater treatment system and discharge via a permitted outfall in compliance with a current industrial wastewater discharge permit.

   b. Treatment of recovered groundwater by means of air stripping and carbon adsorption. The air stripper shall be maintained in compliance with applicable air quality regulations.

   c. Disposal at permitted deep injection well facility.

   d. Disposal at other authorized on-site facility or permitted off-site facility.

   e. Any other treatment methods approved by the Executive Director.

   The method(s) utilized for handling, disposing and recording volumes of all recovered/purged contaminated groundwater shall be reported in accordance with CP Table VII.

9. Recovered NAPLs, if found, shall be managed (treated, stored, and disposed), or recycled in an authorized on-site unit(s) or an off-site facility.

10. The Corrective Action Program shall consist of the system components listed in Provisions XI.B.1. through XI.B.9., to be operated according to the plans and specifications as approved in Provision XI.C.1. and the specifications of this Compliance Plan.

    a. If groundwater recovery wells are utilized in the Corrective Action System, the flow rate at each recovery well shall be set and recorded once a week.

This weekly flow rate data shall be used to calculate a semiannual total flow which shall be reported in accordance with CP Table VII of this Compliance Plan.

b. All Corrective Action System components shall be maintained in a functional and leak-free condition. All above ground collection system pipes shall be inspected weekly. In addition, the area surrounding the wells shall be inspected weekly for visible signs indicating leaks in buried sections of the collection system. If a release of reportable quantity is detected in any part of the collection system, it must be reported within twenty-four (24) hours to the local TCEQ Region Office, and immediate action must be taken to stop the release and resolve the problem.

c. The permittee shall notify the Executive Director of any scheduled or non-scheduled periods of Corrective Action System shutdown, Corrective Action System malfunction, or treatment system shut down for maintenance lasting more than thirty (30) days. The permittee shall notify the Executive Director in writing no later than seven (7) days following the date the permittee determines that the shutdown will last more than thirty (30) days. All shutdowns and malfunctions, irrespective of duration, shall be recorded in the facility's inspection log, and shall be reported in accordance with CP Table VII.

Compliance Monitoring Systems:

11. Groundwater monitoring system may at a minimum consist of the following categories of wells listed in CP Table V, to monitor groundwater quality. An application to modify or amend the Compliance Plan is required to change the category or the wells listed in CP Table V.

    a. Background well(s) that is unaffected by the operation of the facility.

    b. POC wells to demonstrate compliance with the GWPS.

    c. POE wells to demonstrate compliance with the GWPS.

    d. APOE wells to demonstrate compliance with the GWPS at a location other than the prescribed POE.

C. General Design and Construction Requirements

1. All plans submitted with the Compliance Plan Application referenced in Provision XI.A.7., concerning the design, construction, and operation of the authorized components of the Corrective Action and Groundwater Monitoring Programs and/or groundwater Compliance Monitoring Program, are approved subject to the terms established by this Compliance Plan. All plans must comply with this Compliance Plan and TCEQ Rules. Any alternate Corrective Action System design proposed by the permittee subsequent to issuance of this Compliance Plan that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the Compliance Plan upon approval by the Executive Director.

2. Well Design, Construction, Installation, Certification, Plugging and Abandonment Procedures and Specifications

   For all wells to be constructed after issuance of this Compliance Plan that do not meet the well construction specifications identified in CP Attachment C of this permit, the permittee shall submit to the Executive Director the proposed well location and construction diagram for approval at least ninety (90) days in advance of the anticipated date of installation or in accordance with an approved schedule for installation. These requirements may be met through submittal of a work plan by the permittee and subsequent approval by the Executive Director. Well installation shall commence upon written approval of the Executive Director. Wells constructed prior to issuance of this Compliance Plan may be utilized as groundwater monitoring wells if they meet the standards of CP Attachment C or are otherwise authorized by issuance of the Compliance Plan.

   Unless the permittee proposes an alternate well design that will result in wells of equivalent performance, each well installed after issuance of this Compliance Plan shall follow the design specifications contained in Attachment CP Attachment C of this permit. The permittee shall follow the certification and reporting requirements for installation of new, plugging/abandonment and replacement of existing wells as specified in CP Attachment C of this permit and CP Table VII.

3. The permittee shall not install or maintain any drinking water or supply wells that are screened within plumes of groundwater contamination at the facility.

D. Corrective Action and Compliance Monitoring Objectives and the Groundwater Protection Standard

   Corrective Action and Compliance Monitoring Objectives for Units Specified in CP Table I

1. The GWPS defines the concentration limits of hazardous constituents, with respect to groundwater quality restoration in the Uppermost Aquifer and any lower interconnected aquifers, which are to be achieved at the POC, (and POE, and APOE, if applicable) and beyond in accordance with Provision XI.E.1. by operation of the Corrective Action Program and/or Compliance Monitoring Program at this facility.

2. POC wells are designated in CP Attachment A and further defined for purposes of this Compliance Plan by CP Table V, which also identifies the POE (and APOE, if any) wells for which groundwater monitoring procedures will apply (Permit Section XI. F.)

3. For Corrective Action, the hazardous constituents detected in groundwater are specified in Column A of CP Table III and IIIA. For Compliance Monitoring, hazardous constituents that are reasonably expected to be in or derived from waste placed in the units and that are to be monitored annually at the POC are listed in Column A of CP Table IV. The hazardous constituents detected in the groundwater are specified in Column A of CP Table IVA. Additional constituents shall be added to CP Tables IIIA (Corrective Action) and IVA (Compliance Monitoring) through a Compliance Plan modification or amendment in

accordance with Provision XI.J.4. Groundwater analysis for each hazardous constituent shall utilize an analytical method, listed in the EPA SW-846 and as listed in the July 8, 1987 edition of the Federal Register and later editions, which is capable of measuring the concentration of the hazardous constituent at a level equal to or less than the corresponding value specified in CP Tables III, IIIA, and IVA and equal to the quantitation level specified in CP Table IV except when matrix interference prevents achievement of that level.

4. The GWPS are specified in Column B of CP Tables III and IIIA (Corrective Action) or IVA (Compliance Monitoring). The GWPS shall be the values for statistical comparisons unless CP Tables III, IIIA or IVA are amended in accordance with current guidance and regulations, or if any other accepted levels are promulgated by the TCEQ or the EPA. The values in CP Tables III and IIIA or IVA will change as updates to 30 TAC Section 335.160 and Chapter 350 are promulgated. The Executive Director or the permittee may request to replace concentration limits through a modification or amendment to this Compliance Plan in accordance with 30 TAC Chapter 305 Subchapter D.

5. Compliance Period for each unit is specified in CP Table VI.

6. The GWPS Achieved for the Corrective Action Program.

   a. Achievement of the GWPS, in accordance with Provision XI.E.1., is defined by the results of the data evaluation of Provision XI.F.4., wherein the concentrations of hazardous constituents have been reduced by the Corrective Action Program (Permit Section XI.E.) to concentrations of hazardous constituents that do not exhibit a statistically significant increase or exceed the concentration limits when directly compared to the GWPS of CP Table III.

   b. If the GWPS is achieved at the RCRA-regulated units or waste management areas, in accordance with Provision XI.E.1., during the Compliance Period, the permittee may apply to modify or amend this Compliance Plan to revise the Corrective Action Program to the extent necessary to demonstrate by means of the Groundwater Monitoring Program that the GWPS will not be exceeded during the remainder of the Compliance Period.

   c. If the GWPS is not achieved at the RCRA-regulated units or waste management areas, in accordance with Provision XI.E.1., during the Compliance Period, the Corrective Action Program must continue until the GWPS has not been exceeded in all wells for that corrective action area for three (3) consecutive years.

   d. If the GWPS established in this Compliance Plan for the RCRA-regulated unit or waste management area have not been exceeded for three (3) consecutive years at the end of the Compliance Period, then the permittee must, within ninety (90) days, submit an application for a Compliance Plan/Permit modification or amendment to establish a Compliance Monitoring Program or a Detection Monitoring Program for the aquifer(s) during the remaining portion of the thirty (30) year post-closure care period in accordance with 40 CFR Part 264.117. If the thirty (30) year post-closure care period has expired, the permittee may request groundwater monitoring for that RCRA-regulated unit or waste management area be discontinued.

Until approval of the request, the permittee shall continue groundwater monitoring under current Compliance Plan provisions for each RCRA-regulated unit or waste management area.

e. If the GWPS established in this Compliance Plan for SWMUs and/or AOCs listed in CP Table I, Item C have not been exceeded for three (3) consecutive years in all wells for that unit, then the permittee may apply for a modification or amendment to the Compliance Plan to terminate the Corrective Action Program for that unit.

f. If the GWPS established by this Compliance Plan for those units/areas listed in CP Table I, Item D (regarding alternative corrective action requirements for commingled plumes) have not been exceeded for three (3) consecutive years for all wells for those units/areas, and the performance standards of 30 TAC Sections 335.8 and 335.167 are met, then the permittee may apply for a modification or amendment to the Compliance Plan to terminate the Corrective Action Program for those units/areas.

Compliance Monitoring Program

7. Compliance with the GWPS for each well is defined by the results of the data evaluation of Provision XI.F.4., wherein the concentrations of hazardous constituents do not exhibit a statistically significant increase (SSI) or exceed the concentration limits when directly compared to the concentration limits of CP Table IVA. If any POC (and/or POE, if any) well of CP Table V is non-compliant with the GWPS at any time during the Compliance Monitoring Program, the permittee shall respond and report according to CP Table VII. The groundwater Compliance Monitoring Program established by this Compliance Plan shall extend until expiration of the Compliance Period specified in CP Table VI. At the end of the Compliance Period, the permittee shall either:

   a. Submit a permit modification or amendment request to re-establish a Detection Monitoring Program under 30 TAC Section 335.164 for the remaining portion of the thirty (30) year post-closure care period in accordance with 40 CFR Part 264.117 if none of the hazardous constituents are detected at concentrations equal to or greater than the values listed in CP Table IV. Until approval of the request, the permittee shall continue groundwater monitoring under current Compliance Plan provisions;

   b. Continue monitoring under the Compliance Monitoring Program if any hazardous constituent continues to be detected at concentrations equal to or greater than the value listed in CP Table IV and the GWPS in CP Table IVA is not exceeded during remaining portion of the thirty (30) year post-closure care period; or

   c. If the thirty (30) year post-closure care period has expired and hazardous constituents continue to be detected in groundwater by Compliance Monitoring Program, then the permittee may request groundwater monitoring be discontinued if the GWPS of CP Table IVA are not exceeded at the end of the Compliance Period. Until approval, the permittee shall continue groundwater monitoring under current Compliance Plan provisions.

E. Corrective Action Program

The Corrective Action Program applies to units specified in CP Table I, Items A, C and D. The Corrective Action Program shall remediate, recover, and/or contain contaminated groundwater from the Uppermost Aquifer and any interconnected lower aquifers, if applicable. The Corrective Action Program shall consist of the system components of Permit Section XI.B., to be operated according to the specifications of this Compliance Plan. The permittee shall conduct the Corrective Action Program until the performance standards of Provision XI.E.1. are met. The permittee shall initiate the Corrective Action Program immediately upon issuance of this Compliance Plan, except where other specific TCEQ response deadlines may apply.

1. Performance Standard

The permittee shall conduct the Corrective Action Program to remedy the quality of groundwater by removing or treating in place the hazardous constituents so as to achieve the concentration limits specified in the GWPS of Permit Section XI.D. in accordance with the following:

a. At the POC (POE and APOE, if any) and between the POC (POE and APOE, if any) and the downgradient facility property line;

b. Beyond the facility boundary where necessary to protect human health and the environment, unless the permittee demonstrates to the satisfaction of the Executive Director that, despite the permittee's best efforts, the necessary permission from the property owner(s) was not received to undertake such action. The permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied;

c. Operate the Corrective Action System so as to intercept, contain and/or treat the contamination in the Uppermost Aquifer unless the system is under repair or maintenance;

d. Recommend changes to the configuration of the Corrective Action System at any time that it is determined that the contamination present in the Uppermost Aquifer, deeper zone, or any interconnected lower aquifers is not being effectively contained and/or remediated; and

e. The permittee is required to actively remove NAPLs from the Uppermost Aquifer and any interconnected aquifers wherever found, to the extent technically practicable.

F. Groundwater Monitoring Program Requirements

The permittee shall install, operate and maintain the Groundwater Monitoring System to evaluate the compliance status of the waste management units under the Compliance Monitoring Program, or to evaluate the effectiveness of the Corrective Action Program for those units undergoing remediation, as applicable. The Groundwater Monitoring System, shall be composed of wells specified in CP Table V,

and shall include at a minimum Background, and Point of Compliance, and other wells as necessary which have been approved by the Executive Director (e.g. POE, and APOE, etc.).

1. Waste Management Area Specific Background Groundwater Quality

   The permittee may submit to the Executive Director for review and approval a plan to determine site-specific background values of the naturally-occurring hazardous constituents of CP Table III, IIIA (for Corrective Action) or CP Table IVA (for Compliance Monitoring) in lieu of the concentration limits given in these Tables. The plan shall include appropriate background well locations and screened intervals, well sampling schedules, and methodology for determining and expressing background values in a form appropriate for the statistical evaluation of the monitoring results. Once background values have been established, the permittee shall submit a modification or amendment, in accordance with Provision XI.J.4., to add background values.

2. Sampling and Analysis Plan

   a. Wells shall be sampled according to the Sampling and Analysis Plan referenced in Provision XI.A.7. The Sampling and Analysis Plan is hereby incorporated into the Compliance Plan by reference as if set out fully herein. The permittee or the Executive Director shall propose modifications to the plan, as necessary to reflect current methods in EPA SW-846 and ASTM Standard Test Methods or other methods accepted by the TCEQ. The laboratory methods utilized for groundwater analysis shall be capable of measuring concentration of each hazardous constituent equal to or less than the values in Table CP III, IIIA or IVA. Any and all revisions to the plan shall become conditions of this Compliance Plan at the beginning of the first quarter following approval by the Executive Director.

   b. An up-to-date and approved Sampling and Analysis Plan shall be maintained at the facility and made available for inspection upon request.

3. Sampling and Analysis Frequencies and Parameters

   a. Frequencies of sampling are defined below:

      (1) "Week" and "month" shall be based upon a calendar week and month;

      (2) "Quarter" shall be based on divisions of the calendar year (i.e., January through March, April through June, July through September, October through December);

      (3) "Semiannual" shall be based on divisions of the calendar year (i.e., January through June and July through December) and consist of two consecutive quarters;

      (4) "Annual" or "Year" shall be four consecutive quarters, beginning with the first quarter. Years shall be designated consecutively, beginning with the "first year", "second year", etc.; and

(5) "Calendar year" shall be based on divisions of the calendar (i.e. January through December).

b. Sampling of wells shall commence during the first complete quarter after issuance of this Compliance Plan. Thereafter, samples shall be collected on a semiannual basis during the first thirty (30) days of each first and third quarter. Data evaluations shall be completed within sixty (60) days of collection of the last sample unless QA/QC procedures show that data is unacceptable and re-analyses or re-sampling must be performed. In such cases, the Executive Director will be notified as soon as it becomes apparent that the sixty (60) day time limit will not be met.

c. In the first and subsequent years of groundwater monitoring, the wells shall be sampled and analyzed according to the following schedules:

(1) Corrective Action Monitoring for units specified in CP Table I, Items A, C and D.

(a) Each Background, POC, POE, and APOE well listed in CP Table V; and each AMP if applicable, CAO, and CAS well depicted in Attachment A shall be sampled and analyzed semiannually for the constituents of CP Table IIIA until the achievement of the GWPS in accordance with Provision XI.D.6.

(b) Each CAO well, AMP well (if applicable) and CAS well shall continue to be sampled, according to Section XI.D., until any changes to these groups of wells are approved by the Executive Director pursuant to Provision XI.B.3.

(c) Each well of CP Table V shall be sampled for the constituents of CP Table IIIA, according to Provision XI.D.3., until analytical results satisfy the GWPS of CP Table IIIA for all wells of CP Table V of that unit or area for two consecutive sampling events. All wells listed in CP Table V shall then be sampled and analyzed semiannually for the constituents of CP Table III until all constituents of CP Table III are below the GWPS for all CP Table V wells of that unit or area in accordance with Provision XI.D.6.

(d) If the GWPS is achieved in all wells (Background, POC, POE, APOE, AMP, CAO and CAS), in accordance with Provision XI.D.6.a., then the permittee may apply to modify or amend the Compliance Plan according to Provisions XI.D.6.b., XI.D.6.d., XI.D.6.e., or XI.D.6.f.

(e) Any well with NAPLs detected in the wellbore shall be considered as non-compliant with the GWPS and is not required to be analyzed for the constituents of CP Table III or IIIA.

(2) Compliance Monitoring for units specified in CP Table I, Item B.

(a) If data evaluation is performed in accordance with Provision XI.F.4.a., one sample from each well of CP Table V shall be taken and analyzed semiannually for the constituents of CP Table IVA.

If data evaluation is performed in accordance with Provision XI.F.4.b., a sequence of at least four independent samples from each well of CP Table V shall be taken and analyzed semiannually for the constituents of CP Table IVA; and

(b) One sample from each well of CP Table V shall be taken and analyzed annually for constituents in CP Table IV during the first quarter of each year. Analysis for the hazardous constituents of CP Table IV and CP Table IVA may be accomplished with the same sample when sampling events coincide.

d. Field Determination Requirements - All Wells Specified in CP Table VII (Item 12).

(1) Water level measurements relative to Mean Sea Level shall be measured to within 0.01 ft. and shall be performed during each sampling event effective immediately with issuance of this Compliance Plan. Measurements shall be taken in all monitor wells specified in this Compliance Plan.

(2) Field determinations of pH, temperature and Specific Conductivity are required for all wells of CP Table V and as depicted in CP Attachment A excluding wells containing NAPLs. Turbidity in nephelometric turbidity units is required if micropurging techniques are utilized during sample collection.

(3) Field observations including descriptions of appearance (clarity, color, etc.) shall be recorded semiannually for all wells of CP Table V and wells depicted in CP Attachment A, excluding wells containing NAPL.

(4) The total depth of each well which is not equipped with a dedicated pump shall be measured during each sampling event. Total depth of each well which is equipped with a dedicated pump shall be measured when: 1) pumps are removed for maintenance; or 2) the groundwater production rate of the dedicated pump decreases by 25% from the initial production rate when the pump was installed. The measured total depth shall be compared to the total depth recorded on the well construction log. Should a comparison of the measured and the recorded total depth reveal that greater than 20% of the well screen has been silted in, the permittee shall perform such actions necessary (redevelopment, replacement, etc.) to enable the well to function properly.

(5) All wells specified in CP Table VII (Item 12) shall be inspected during each sampling event in accordance with specifications in the Sampling and Analysis Plan. Repairs or a proposal for replacement for any affected well shall be performed within ninety (90) days of the routine sampling event inspection which identified the problem well.

4. Data Evaluation Procedures

Data evaluation in accordance with this provision shall be performed for all wells within sixty (60) days of collection of the last sample for the duration of the

Corrective Action Monitoring and Compliance Monitoring programs. When evaluating the monitoring results of each well, pursuant to Permit Section XI.F., for the constituents of CP Tables III or IIIA for corrective action monitoring, or CP Tables IV or IVA for compliance monitoring, the permittee shall either:

a. Corrective Action Monitoring: Directly compare the value of each constituent to the respective concentration limit of CP Table III or IIIA and determine if it is less than, equal to, or greater than the concentration limits. If the values for all the constituents are less than or equal to the respective concentration limits, then the well shall be considered compliant with the GWPS for the sampling event. If one or more constituent value is greater than the respective concentration limit, then the well shall be considered non-compliant with the GWPS for the sampling event; or

   Compliance Monitoring: Directly compare the value of each constituent to the respective concentration limit of CP Table IV or IVA and determine if it is less than, equal to, or greater than the listed value. For constituents listed in CP Table IV that are not also listed in CP Table IVA, if constituents are detected at concentrations equal to or greater than the value listed in CP Table IV, then the procedures of Provision XI.G.2.b. apply. For constituents listed in CP Table IVA, if the values for all the constituents are less than or equal to the respective concentration limits of CP Table IVA, then the well shall be considered compliant with the GWPS for the sampling event. If one or more constituent value is greater than the respective concentration limit, then the well shall be considered non-compliant with the GWPS for the sampling event and the procedures of Provision XI.G.2.a. apply; or

b. Compare the value of each constituent to its respective concentration limit of CP Table III or IIIA for corrective action monitoring, or CP Table IV or IVA for compliance monitoring, using one of the following procedures:

   (1) The Confidence Interval Procedure for the mean concentration based on a normal, log-normal, or non-parametric distribution. The 95 percent confidence coefficient of the t-distribution will be used in constructing the confidence interval (Chapter 21 of Statistical Analysis of Groundwater Data at RCRA Facilities-Unified Guidance, U.S. EPA, March 2009), and subsequent updates acceptable to the Executive Director. The confidence interval upper limit for each constituent shall be compared with the corresponding concentration limit in CP Table III or IIIA for corrective action monitoring, or CP Table IV or IVA for compliance monitoring. To be considered in compliance, the confidence interval upper limit for a well in question must not exceed the tabled concentration limit. A confidence interval upper limit above the tabled concentration limit shall be considered as evidence of statistically significant contamination; or

   (2) An alternative statistical method proposed by the permittee and approved by the TCEQ. Any proposed alternative method must be appropriate with respect to distributional assumptions and must provide reasonable control of both false positive and false negative error rates.

c. Within thirty (30) days of an initial data evaluation that determines concentration limits have been exceeded in a well, pursuant to Provisions XI.F.4.a. or XI.F.4.b., the permittee may resample and repeat the analysis to verify concentration limits have been exceeded. If the second analysis indicates that the sample does not exceed the concentration limits, then the well shall be considered compliant with the concentration limits for the sampling event.

G. Response and Reporting

1. Corrective Action Monitoring for units specified in CP Table I, Items A, C, or D (if alternative corrective action requirements apply).

a. If the permittee or the Executive Director determines that the Corrective Action Program required by this Compliance Plan no longer satisfies the requirements of 30 TAC Sections 335.166 or 335.167, the permittee must, within ninety (90) days of either the permittee's determination or Executive Director's notification, submit an application for a Compliance Plan modification or amendment to make any appropriate changes to the Corrective Action Program which will satisfy the regulations.

b. If the Executive Director determines that the lateral or vertical extent of groundwater contamination is not delineated, the permittee must, within ninety (90) days of the date of the Executive Director's notification unless otherwise directed, initiate an investigation to determine the extent of the contamination based on the Practical Quantitation Limit (PQL), Method Quantitation Limit (MQL), or other applicable standard as required or approved by the Executive Director.

c. This section applies only if POEs are defined in CP Table V and a GWPS is assigned at the POE; and attenuation action level (if applicable) is assigned to its respective attenuation monitoring point. If during two (2) consecutive sampling events the GWPS is exceeded at the POE, or the attenuation action level (if applicable) is exceeded at its respective attenuation monitoring point, then within ninety (90) days of completing the data evaluation of the second sampling event, the permittee must:

(1) Install groundwater recovery wells or alternate Corrective Action System design to mitigate the downgradient migration of the contaminant plume; and/or

(2) Reevaluate the criteria originally used to establish the GWPS, in accordance with Provision XI.D.4., and submit an application to modify or amend the Compliance Plan to address the GWPS exceedance; and/or reevaluate the criteria originally used to establish the attenuation action level and submit an analysis to the Executive Director for approval to request changes to the attenuation action level.

2. Compliance Monitoring for units specified in CP Table I, Item B

   a. Compliance with the GWPS for each POC (POE and APOE, if applicable) well of CP Table V is defined by the results of the data evaluation of Provision XI.F.4., wherein the concentrations of hazardous constituents do not exhibit a statistically significant increase or exceed the concentration limits when directly compared to the concentration limits of CP Table IVA. If the permittee determines that any concentration limit of CP Table IVA is being exceeded pursuant to the procedures used in Provision XI.F.4. at any POC (POE, and APOE, if applicable) well of CP Table V, then the permittee must notify the Executive Director of this finding in writing within seven (7) days. The notification must identify what concentration limits have been exceeded and indicate that the permittee will either:

      (1) Submit a Compliance Plan modification or amendment to the Executive Director to establish a Corrective Action Program meeting the requirements of 30 TAC Section 335.166 within 180 days of such determination in accordance with 30 TAC Section 335.165(8)(B);

      (2) Demonstrate that a source other than the regulated unit caused the exceedance of the concentration limits of CP Table IVA or that the concentration is an artifact caused by errors in sampling, analysis, or statistical evaluation or natural variation in the groundwater within ninety (90) days in accordance with 30 TAC Section 335.165(9); or

      (3) Re-evaluate the criteria originally used to establish the concentration limits of the GWPS to determine if a Corrective Action Program is necessary. If it is determined that revised concentration limits will result in a GWPS that is protective of human health and the environment, then the permittee may request to replace the concentration limits of the GWPS through a modification or amendment to this Compliance Plan in accordance with Provision XI.D.6. Such a request must be submitted within ninety (90) days and may require a proposal for additional groundwater monitoring wells to verify attenuation of the contaminant plume to levels that are protective of human health and the environment.

   b. If the permittee detects CP Table IV constituents at concentration levels equal to or greater than the listed Quantitation Limit and which exceed background groundwater quality in groundwater samples from POC (POE, APOE, if any) wells of CP Table V that are not already identified in CP Table IVA as monitoring constituents, then the permittee must either:

      (1) Report the concentration of the newly detected constituents to the Executive Director within seven (7) days after the completion of the analysis. Within ninety (90) days after the completion of the analysis, the permittee shall submit a modification or amendment application, in accordance with Provision XI.J.4., requesting that the constituent be added to the CP Table IVA. The request shall propose a concentration limit for the GWPS based on 30 TAC Section 335.160 for each constituent; or

(2) Resample within thirty (30) days of the initial findings and repeat the CP Table IV analysis. If the second analysis does not confirm the presence of the newly detected constituents, then the permittee shall continue monitoring under the current Compliance Plan provisions. If the second analysis confirms the presence of the newly detected constituents, then the permittee shall report the concentration of these additional constituents to the Executive Director within seven (7) days after the completion of the second analysis. Within ninety (90) days after completion of the second analysis, the permittee shall submit a modification or amendment application, in accordance with Provision XI.J.4., requesting that the confirmed constituents be added to the CP Table IVA. The request shall propose a concentration limit for the GWPS based on 30 TAC Section 335.160 for each constituent.

c. If the permittee or the Executive Director determines that the Compliance Monitoring Program required by this Compliance Plan no longer satisfies the requirements of 30 TAC Section 335.165, the permittee must, within ninety (90) days of either the permittee's determination or Executive Director's notification, submit a Compliance Plan application, in accordance with Provision XI.J.4., to make changes to the Compliance Monitoring Program which will satisfy the regulations.

3. For Corrective Action and Compliance Monitoring Programs, the permittee shall submit a groundwater monitoring report(s) in accordance with the frequency specified in Column B, CP Table VII, and contain the information listed in CP Table VII required for the specific program(s) that are applicable.

H. Corrective Action and Interim Corrective Measures (ICMs) for Solid Waste Management Units

1. Corrective Action Obligations

The permittee shall conduct corrective action as necessary to protect human health and the environment for all releases of hazardous waste, hazardous constituents listed in Appendix VIII and/or 40 CFR Part 264, Appendix IX and/or other COCs from any SWMU and/or AOC according to 30 TAC Section 335.167. Corrective action shall consist of an Affected Property Assessment (APA), determination of protective concentration levels, selection of a remedy standard (if necessary), development and implementation of a response action (if necessary), and submittal of required reports according to 30 TAC Chapter 350.

In the case of SWMUs and/or AOCs that have been grandfathered under 30 TAC Chapter 335, Subchapters A and S, Risk Reduction Standards (RRS), corrective action shall consist of the RCRA Facility Investigation (RFI) and if necessary, Interim Corrective Measures (ICM), Baseline Risk Assessment (BLRA), Corrective Measures Study (CMS) and Corrective Measures Implementation (CMI). For grandfathered SWMUs and/or AOCs, the permittee may continue to complete the corrective action requirements under 30 TAC Chapter 335, Subchapters A and S, provided the permittee complies with the notification and schedule requirements pursuant to 30 TAC Sections 335.8 and 350.2(m).

If on the basis of the APA /RFI, it is determined that COC have been or are being released into the environment, the permittee may be required to conduct necessary ICMs and/or corrective actions.

Upon Executive Director's review of corrective action obligations, the permittee may be required to perform any or all of the following:

a. Conduct investigation(s);

b. Provide additional information;

c. Investigate additional SWMU(s) and/or AOC(s); and/or

d. Submit an application for a modification/amendment to a Compliance Plan to implement corrective action.

Any additional requirements must be completed within the time frame(s) specified by the Executive Director.

2. The permittee shall conduct an RFI/APA for the SWMUs and/or AOC listed in CP Table II, in accordance with Provision XI.A.5., and for any new SWMUs and/or AOC discovered after the issuance of this Compliance Plan in accordance with Provision XI.A.6.

3. Variance From Investigation

The permittee may elect to certify that no COCs are currently or never have been present or managed in a SWMU and/or AOC referenced in Provision XI.H.2. in lieu of performing the investigation required in Provisions XI.H.1. and XI.H.4., provided that confirming data is submitted for the current and past waste(s) managed in the respective unit or area. The permittee shall submit such information and certification(s) on a unit-by-unit basis in the time frame required in Provision XI.H.4. for review and approval by the Executive Director of the TCEQ. Should the permittee fail to demonstrate and certify that COCs are not or were not present in a particular unit, the investigation required in Provisions XI.H.1. and XI.H.4. shall be performed for the SWMU and/or AOC.

4. RCRA Facility Investigation (RFI)/Affected Property Assessment (APA)

Within sixty (60) days from the date of issuance of this Compliance Plan and/or approval of the RFA Report of Provision XI.A.5., the permittee shall submit a schedule for completion of the RFI(s)/APA to the Executive Director for review and approval. The permittee shall initiate the investigations in accordance with the approved schedule and guidance contained in the EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 and in accordance with state regulations referenced in Provision XI.H.1. The results of the RFI/APA must be appropriately documented in a report and submitted to the Executive Director for approval within the time frame established in the approved schedule. The Report shall be considered complete when the full nature and extent of the contamination, the QA/QC procedures and the Data Quality Objectives are documented to the satisfaction of the Executive Director. The permittee shall propose or conduct ICMs, as necessary, to protect human health and the environment.

5. Remedy Selection

Upon approval of RFI Report/APA Report (APAR), if it is determined that there has been a release of COCs into the environment, which poses a potential risk to human health and the environment, then the permittee shall propose a remedy in accordance with the 30 TAC Chapter 335, Subchapters A and S, Risk Reduction Standards (if applicable), the TRRP rules, or as otherwise authorized by the Executive Director. This may require a BLRA and/or CMS Report to be submitted for review and approval within the time frame(s) specified by the Executive Director. For facilities that are grandfathered under 30 TAC Chapter 335, Subchapter S, this report shall address RRS requirements, and the applicable items contained in the EPA publications referenced in Provision XI.H.4. or other guidance acceptable to the Executive Director. For projects conducted under TRRP, the risk assessment process shall be addressed in the APAR and the evaluation of corrective measures shall be conducted as part of the remedy standard selection process.

6. Corrective Measures Implementation (CMI)/Remedial Action Plan (RAP)

If on the basis of the RFI and/or BLRA and/or CMS or APA, it is determined that there is a risk to the human health and environment, then the permittee shall submit for approval a CMI Work Plan(s) or propose a response action (TRRP) within 180 days of receipt of approval of the RFI and/or BLRA/CMS Report or APAR unless otherwise extended by the Executive Director. The CMI Workplan shall address all of the applicable items contained in the EPA publications referenced in Provision XI.H.4. or other guidance acceptable to the Executive Director. Response actions, including TRRP Remedy Standard A or Risk Reduction Standard (RRS) No. 2, cannot be self-implemented as normally allowed by TRRP or RRS because under Hazardous Solid Waste Amendments (HSWA) corrective action and permit provisions requires the CMI Workplan to be reviewed prior to approval and public participation (see also Provision XI.H.7.). For TRRP response actions, the permittee shall submit a RAP in accordance with schedules and requirements of 30 TAC Chapter 350. The CMI Workplan or RAP shall contain detailed final proposed engineering design, monitoring plans and schedule to implement the selected remedy and assurances of financial responsibility for completing the corrective action. Upon completion of the response action, the permittee shall submit a CMI Report or Response Action Completion Report (RACR) to the TCEQ for review and approval. The CMI Report shall address all the applicable items in the EPA publications EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or other guidance acceptable to the Executive Director. The RACR shall address all the applicable items in Title 30 TAC Chapter 350 and applicable guidance.

If the response action does not propose a permanent remedy (e.g., RRS No. 3 or Remedy Standard B), or the response action requires long-term groundwater monitoring in order to demonstrate attainment of a permanent remedy (e.g., monitored natural attenuation to demonstrate Remedy Standard A), the permittee must submit a CMI Workplan or RAP as part of a Compliance Plan application and/or modification/amendment in accordance with Provision XI.J.4. to establish corrective action and provide financial assurance to satisfy the requirements of 30 TAC Section 335.167.

The Compliance Plan application and/or modification/amendment must be submitted within 180 days of approval of the CMS/BLRA or APAR. The permittee may propose an alternative schedule to be approved by the Executive Director to incorporate several approved CMI Workplans or RAPs into a single Compliance Plan modification/or amendment when CMI Workplans or RAP schedules coincide. Implementation of the corrective measure(s) shall be addressed through issuance of a new or modified/amended Compliance Plan.

To report the progress of the corrective measures, the permittee shall submit to the TCEQ CMI Progress Reports or RAERs (TRRP) semiannually as a section of the Compliance Plan report required by CP Table VII of this Compliance Plan, or as otherwise directed.

If deed recordation and necessary institutional controls are required as part of the final corrective action, the permittee shall within ninety (90) days of approval for the final corrective action submit to the Executive Director for review and approval the required proof of deed notice in accordance with Provision XI.J.1.

7. Public Notice

   a. The permittee shall conduct public notice when:

      (1) CMI Work Plan or RAP is submitted to the Executive Director, in accordance with Provision XI.H.6., which contains the proposed final corrective measure for SWMU(s) and/or AOC(s) from which a release has occurred, and with proposed institutional control (as applicable). This process occurs through Compliance Plan renewal, or modification/ amendment; or

      (2) If on the basis of the RFI/BLRA or APAR required by Provisions XI.H.4. and XI.H.5., it is determined the release from SWMU(s) and/or AOC(s) meets the performance standards under RRR or TRRP such that no remedy is needed, there is no risk to the human health and environment, and the permittee seeks approval of no further action determination by the Executive Director. This process occurs through corrective action process.

   b. No public notice is required when it is determined based on the results of the RFA required by Provision XI.A.6., or the RFI or APAR required by Provision XI.H.4., that no release occurred from a SWMU and/or AOC.

      The purpose of the public notice is to give the members of the public the opportunity to submit written comments on the proposed corrective measure(s) or proposed no further action determination. Refer to Attachment B of this Compliance Plan for further guidance on public notice participation in HSWA corrective action.

8. Interim Corrective Measures (ICM)

   a. The ICM apply to waste management units or AOC under investigation for which a final Corrective Action Program has not been authorized by the Compliance Plan. ICM also apply to units/AOC that are discovered after issuance of this Compliance Plan.

b. The objectives of the ICM are to remove, decontaminate, and/or stabilize the source (i.e., waste and waste residues) and contaminated media to protect human health and the environment. The permittee shall modify the ICM, as necessary, to achieve these objectives.

c. The permittee is authorized to design, construct, operate and maintain ICM for waste management units/AOC as necessary to protect human health and the environment. The ICM shall be operated until final corrective measures established, in accordance with Provision XI.H.6., are authorized in the Compliance Plan. At a minimum, the ICM shall consist of the following:

(1) Specific performance goals to protect human health and the environment;

(2) A monitoring system to evaluate the ICM and determine if the objectives outlined in Provision XI.H.8.b. are being met. All ICM wells must comply with the requirements of Provision XI.C.2. and CP Attachment C, Well Design and Construction Specifications, of this permit;

(3) An implementation schedule to initiate ICMs;

(4) Submittal of a report specifying the design of the ICM upon installation. During implementation of the ICM, periodic ICM Status Reports shall be submitted in accordance with CP Table VII (Item 25) to document the objectives of Provision XI.H.8.b. are being achieved; and

(5) A procedure to modify the design, as necessary, to achieve the objectives outlined in Provision XI.H.8.b.

I. Financial Assurance

The permittee shall provide financial assurance for operation of the Groundwater Monitoring and Corrective Action Programs, as applicable, in accordance with this Compliance Plan in a form acceptable to the Executive Director in an initial amount not less than $419,000 within sixty (60) days of issuance of this Compliance Plan. The financial assurance shall be secured, maintained, and adjusted in compliance with TCEQ regulations on hazardous waste financial requirements (30 TAC Chapter 37, Subchapter P).

J. General Provisions

1. Deed Recordation Requirements

For waste and contaminated media approved to remain in place above background or health-based concentration levels after completion of the corrective action and/or groundwater monitoring programs, the permittee shall record an instrument in the county deed records for the facility to specifically identify the areas of contamination exceeding background or health-based values. The deed certification shall follow the requirements of 30 TAC Sections 335.560 and 335.569 or 30 TAC Section 350.111, where applicable.

2. Notification Requirements

   The permittee shall notify the local TCEQ region office at least ten (10) days prior to any well installation or sampling activity required by the Compliance Plan in order to afford Region personnel the opportunity to observe these events and collect samples. This notification requirement will not apply to the routine semiannual or annual groundwater sampling events specified in this Compliance Plan.

3. Distribution of Copies

   The permittee shall submit all schedules, plans, and reports required by this Compliance Plan according to the following distribution list:

   a. An original and one copy to the Corrective Action Section, Mail Code MC-127, Remediation Division, Texas Commission on Environmental Quality in Austin, Texas; and

   b. One copy to the Waste Program, Texas Commission on Environmental Quality Region 12 Office in Houston, Texas.

4. Compliance Plan Modification or Amendment

   Any application to modify or amend the Compliance Plan shall be accomplished in accordance with the provisions of 30 TAC Chapter 305 Subchapter D and submitted in accordance with the Compliance Plan Application's general instructions.

5. Any changes to the Corrective Action or Groundwater Monitoring Systems are subject to Executive Director's approval.

6. The permittee shall maintain all reports, monitoring, testing, analytical, and inspection data obtained or prepared pursuant to the requirements of this Compliance Plan, including graphs and drawings, in the operating record at the facility. The operating record at the facility shall be made available for review by the staff of the TCEQ upon request.

7. The permittee shall submit a compliance schedule in accordance with CP Table VIII.

K. Force Majeure

The permittee's non-compliance with one or more of the provisions of this Compliance Plan may be justified only to the extent and for the duration that non-compliance is caused by a "Force Majeure" event. For purposes of this Compliance Plan, "Force Majeure" is defined as an event that is caused by an Act of God, labor strike, or work stoppage, or other circumstance beyond the permittee's control that could not have been prevented by due diligence, and that makes substantial compliance with the applicable provision or provisions of this Compliance Plan impossible.

The occurrence of a "Force Majeure" event that justifies the missing of one deadline shall not automatically justify the missing of later deadlines unless there is a cumulative effect due to such an event. The permittee shall keep a record of any delaying events.

If the permittee anticipates or experiences an inability to comply with any of the provisions of this Compliance Plan due to a "Force Majeure" event, the permittee shall notify the Executive Director of the TCEQ within twenty-four (24) hours. A written notice must be submitted to the TCEQ within ten (10) days, which describes the nature, cause, and anticipated length of the delay and all steps which the permittee has taken and will take, with a schedule for their implementation, to avoid or minimize the delay. In the event that performance of any of the activities required by this Compliance Plan is affected by a "Force Majeure" event, then the permittee shall propose a plan for approval by the Executive Director of the TCEQ, for achieving the objectives of the Compliance Plan by alternative means in the timeliest manner.

Table III.D. - Inspection Schedule

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Active Tanks	Spills, Leaking valves, pumps, flanges, piping. Tank integrity. Proper operation of air emission control equipment.	Daily
Container Storage Areas	Concrete Cracks, berm integrity, leaking or corroded drums, lids, rings, labeling, aisle spacing.	Daily
Roll-off Bins Storage Area	Poor conditions of bins or concrete pad such as leaks or cracks, stormwater accumulation or rain-water infiltration to bins.	Daily
Stabilization and Consolidation Area	Leaks or cracks in concrete containment, proper operation of ventilation and air emission control equipment.	Daily
Lab Pack/Repack Area	Concrete Cracks, berm integrity, leaking or corroded drums, lids, rings, labeling, aisle spacing, proper operation of ventilation and air emission control equipment.	Daily

TABLE III.E.3. - EMERGENCY EQUIPMENT

Equipment	*Location*	*Physical Description*	*Capabilities*
Fire Extinguisher	Plant Front Office	5 lb. Fire Extinguisher	ABC Dry Chemical
Fire Extinguisher	NOR 2, 3 & 4 Area	20 lb. Fire Extinguisher	ABC Dry Chemical
Fire Extinguisher	NOR 5 Area	20 lb. Fire Extinguisher	ABC Dry Chemical
Fire Extinguisher	NOR 5 Area	30 lb. Fire Extinguisher	Super Class D Dry Chemical
Fire Extinguisher	NOR 5 Area	30 lb. Fire Extinguisher	Combustible Materials
Fire Extinguisher	NOR 5 Area	150 lb. Fire Extinguisher	ABC Dry Chemical (Metals)
Fire Extinguisher	NOR 8 Area	20 lb. Fire Extinguisher	ABC Dry Chemical (Metals)
Fire Extinguisher	NOR 26 (North Wall)	30 lb. Fire Extinguisher	Combustible Metals
Fire Extinguisher	NOR 26 (West Wall)	20 lb. Fire Extinguisher	ABC Dry Chemical
Warehouse NOR 15 (A, B, C, D, E), NOR 41 and NOR 42.	RCRA Warehouse	Automated Foam System with panic buttons and link to Houston Fire Dept. Visual and audible local alarms activate as well.	Deluge Foam System, activated by smoke alarm and dispersed by melting of fuse links. Panic Buttons are located all over warehouse.
Front End Loader	Plant	Rubber Tired	Large Scale Excavation for Spills
Absorbent Material	Warehouse	Vermiculite	Spill Dry Materials
Shovels	Warehouse	Standard Shovels	Excavation for Spills
Extruded Spill Absorbents	Warehouse	Boom and Pads	Spill Containment
Telephone	Throughout Plant Offices	Standard Phones w/intercom	Communication
Two-Way Radios	Supervisory Personnel	Standard Two-Way Radio	Communication
Hand-held Air Horn	NOR 5 (Center); NOR 12 (by Wall)	Manually Activated Air Horn	Communication

Table IV.B. - Wastes Managed In Permitted Units

No.	Waste	EPA Waste Codes	TCEQ Waste Codes
1	Plant debris, rags, gloves, etc.	See note (1)	0003319H
2	Wastewater from clean-up, triple rinsing, etc.	See note (1)	0007204H
3	Caustic Liquid	See note (1)	0002209H
4	Blended Organic Solids	See note (1)	0009409H
5	Organic Lab Packs	See note (1)	TSDF 001 - 005
6	Organometallic Lab Packs	See note (1)	TSDF 001 - 005
7	Inorganic Acidic Solids	See note (1)	TSDF 301 - 399
8	Inorganic Alkaline/Neutral Solids	See note (1)	TSDF 301 - 399
9	Organic Solids	See note (1)	0021407H
10	Inorganic Acidic Sludges	See note (1)	TSDF 501 - 599
11	Inorganic Alkaline/Neutral Sludges	See note (1)	TSDF 501 - 599
12	Organic Sludges	See note (1)	TSDF 601 - 699
13	Inorganic Acidic Liquids	See note (1)	TSDF 601 - 699
14	Inorganic Alkaline/Neutral Liquids	See note (1)	TSDF 101 - 199
15	Organic Liquids	See note (1)	0020219H
16	Empty or Crushed Drums/Containers	Not applicable	TSDF 902
17	Residues from Emission Control Systems	See note (1)	0014404H
18	Pressurized Gases	See note (1)	0017801H

Note: (1) Any EPA Hazardous Waste Number that would be representative of the constituent(s) present in the identified waste.

Table IV.C. - Sampling and Analytical Methods

Waste No.[1]	Sampling Location	Sampling Method	Frequency	Parameter	Test Method	Desired Accuracy Level
1	drum or container	grab	1/10 containers of like group			
2	drum or container	COLIWASA	1/10 containers of like group			
3	tank containment	grab	before removing water	Ignitability	1010	Flash point < 1500 F
4	drum or container	grab	1/10 containers of like group	Corrosively	9045	pH ≤ or ≥ 12.5
5	bulk load trailer	grab	each trailer	Cyanides	9010	≥ 20 mg/kg
6	drum or container	grab	1/10 containers of like group	TPH	418.1	1,500 mg/kg
7	drum or container	grab	1/10 containers of like group			–
8	drum or container	grab	1/10 containers of like group	TCLP (metals)	1311 (extraction)	
9	drum or container	grab	1/10 containers of like group	Antimony	6010/7041	1.0 mg/L
10	drum or container	grab	1/10 containers of like group	Arsenic	6010/7060	1.8 mg/L
11	drum or container	grab	1/10 containers of like group	Barium	6010/7080	1.0 mg/L
12	drum or container	grab	1/10 containers of like group	Beryllium	6010/7090	0.08 mg/L
13	drum or container	grab	1/10 containers of like group	Cadmium	6010/7130	0.5 mg/L
14	drum or container	grab	1/10 containers of like group	Chromium	6010/7190	5.0 mg/L
15	drum or container	COLIWASA	1/10 containers of like group	Lead	6010/7420	1.5 mg/L
16	bulk load trailer	COLIWASA	each trailer	Mercury	7470	0.2 mg/L
17	drum or container	COLIWASA	1/10 containers of like group	Nickel	6010/7520	70.0 mg/L
18	bulk load trailer	COLIWASA	each trailer	Selenium	6010/7740	1.0 mg/L
				Silver	6010/7760	5.0 mg/L
						–
				TCLP (organics)	1311 (extraction)	Desired accuracy levels for volatile and semi-volatile organics are the Class 1 regulatory levels identified in Table 1 of Appendix 1 of 30 TAC Chapter 335, Subchapter R
				Volatiles	8240/8260	
				Semi-Volatiles	8270	

[1]from Table IV.B, first column

Table V.B. - Container Storage Areas

Permit Unit No.	Container Storage Area	N.O.R. No.	Rated Capacity	Dimensions	Containment Volume (including rainfall for unenclosed areas)	Unit will manage Ignitable,[1] Reactive,[1] or Incompatible[2] Waste (state all that apply)
001	Container Storage Area	002	13,750 gal.	42' x 32' x 0.5'	11,150 gal.	Yes
002	Container Storage Area	003	9,350 gal.	10' x 62' x 1.0'	4,715 gal.	Yes
003	Container Storage Area	004	9,350 gal.	11.3' x 71.4' x 1.0'	5,975 gal.	Yes
004	Old Lab Pack/Repack 4 compartment, roofed CSA	005	24,570 gal.	50.5' x 47.3' x 0.94'	17,864 gal.	Yes
005	Sheet metal covered CSA	006	8,250 gal.	20' x 40' x 1.0'	7,500 gal.	Yes
006	Roll-off Bin Storage Area	007	30 cu yds	11' x 20' x 0.25'	400 gal.	Yes
007	Roll-off Bin Storage Area	008	60 cu yds	22' x 22' x 0.83'	3,015 gal.	Yes
008	Roll-off Bin Storage Area	010	150 cu yds	49.8' x 30' x 1.0'	11,200 gal.	No
015A	Drum Storage Warehouse	020	22,000 gal.	155' x 62' x 1.0'	38,544 gal.	Yes (Ignitable only)
015B	Drum Storage Warehouse	021	13,200 gal.	Irregular 105' x 125' @ longest dimension x 0.33' ht.	38,544 gal.	Yes (Ignitable only)
015C	Drum Storage Warehouse	022	8,800 gal.	Irregular 105' x 125' @ longest dimension x 0.33' ht.	38,544 gal.	Yes (Ignitable only)
015D	Drum Storage Warehouse	023	19,800 gal.	Irregular 105' x 125' @ longest dimension x 0.33' ht.	38,544 gal.	Yes

Permit Unit No.	Container Storage Area	N.O.R. No.	Rated Capacity	Dimensions	Containment Volume (including rainfall for unenclosed areas)	Unit will manage Ignitable,[1] Reactive,[1] or Incompatible[2] Waste (state all that apply)
015E	Drum Storage Warehouse	024	12,320 gal.	Irregular 105' x 125' @ longest dimension x 0.33' ht.	24,242 gal.	Yes
040	Warehouse Bulking Platform	025	80 cu yds	50' x 44' x 4.0'	32,000 gal.	Yes
041	Lab Pack Processing Area	026	1,430 gal.	47' x 33' x 0.5'	14,650 gal.	Yes
043	Non-hazardous CSA	001	5,500 gal.	21' x 30' x 0.5'	2,356 gal.	No
044	Outdoor storage & staging CSA	011	55,000 gal.	Irregular 180' @ longest dimension x 150' x 0.5' ht.	75,000 gal.	Yes

[1]Containers managing ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.
[2]Incompatible waste must be separated from other waste or materials stored nearby in other containers, piles, open tanks, or surface impoundments by means of a dike, berm, wall, or other device.

Table V.C. - Tanks and Tank Systems

Permit Unit No.	Tank	N.O.R. No.	Storage and/or Processing	Waste Nos.[1]	Rated Capacity	Dimensions	Containment Volume (including rainfall for unenclosed areas)	Unit will manage Ignitable, Reactive, or Incompatible Waste (state all that apply)
009	Fuels Blending	013	Processing	All except 1, 4, 5, 6, 7, 9, 16, 17, and 18	16,800 gal.	12' dia x 20' ht	4,387 ft³ required 6,905 ft³ available	Yes
010	Wastewater	014	Storage		8,820 gal.	10' dia x 15' ht		Yes
011	Wastewater	015	Storage		8,820 gal.	10' dia x 15' ht		Yes
012	Lean Water	016	Storage		8,400 gal.	12' dia x 10' ht		Yes
013	Tank No. 17	017	Storage		3,600 gal.	7' dia x 13' ht		No
014	Tank No. 18	018	Storage		3,600 gal.	7' dia x 13' ht		No
028	Tank No. 45	045	Processing	All except 1, 4, 5, 6, 7, 9, 16, 17, and 18	16,800 gal.	12' dia x 20' ht	2,246 ft³ required 2,348 ft³ available	Yes
029	Tank No. 46	046	Processing		16,800 gal.	12' dia x 20' ht		Yes
030	Tank No. 47	047	Processing		16,800 gal.	12' dia x 20' ht		Yes
031	Tank No. 48	048	Processing		16,800 gal.	12' dia x 20' ht		Yes

[1]from Table IV.B, first column

Table VII.E.1. - Permitted Unit Closure Cost Summary

Existing Unit Closure Cost Estimate	
Unit	Cost
Container Storage Area (Unit 001)	$11,495.00
Container Storage Area (Unit 002)	$119,950.00
Container Storage Area (Unit 003)	$34,397.00
Container Storage Area (Unit 004)	$34,713.00
Container Storage Area (Unit 005)	$70,471.00
Container Storage Area (Unit 006)	$30,863.00
Container Storage Area (Unit 007)	$26,286.00
Container Storage Area (Unit 008)	$12,666.00
Tank 13 (Unit 009)	$17,820.00
Tank 14 (Unit 010)	$14,791.00
Tank 15 (Unit 011)	$14,791.00
Tank 16 (Unit 012)	$32,182.00
Tank 17 (Unit 013)	$14,791.00
Tank 18 (Unit 014)	$14,791.00
Container Storage Area (Unit 015A)	$71,833.00
Container Storage Area (Unit 015B)	$19,840.00
Container Storage Area (Unit 015C)	$15,863.00
Container Storage Area (Unit 015D)	$64,128.00
Container Storage Area (Unit 015E)	$34,992.00
Container Storage Area (Unit 040)	$14,923.00
Container Storage Area (Unit 041)	$17,830.00
Container Storage Area (Unit 043)	$14,286.00
Container Storage Area (Unit 044)	$52,944.00
+10% Engineering Contingency (and adjusted for inflation to 2015 dollars)	$168,354.00
Total Existing Unit Closure Cost Estimate	$925,000.00 (2015)[1]

[1]As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Proposed Unit Closure Cost Estimate	
Unit	Cost
Tank 45 (Unit 028)	$18,137.00
Tank 46 (Unit 029)	$18,137.00
Tank 47 (Unit 030)	$18,137.00
Tank 48 (Unit 031)	$18,137.00

CP Table I: Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring

A. Corrective Action[1] (30 TAC Section 335.166)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
1.Reserved		

B. Compliance Monitoring[1] (30 TAC Section 335.165)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
1.Reserved		

C. Corrective Action[2] (30 TAC Section 335.167)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
1.AOC No. 1	N/A	N/A
2.		
3.		

D. Alternative Corrective Action[3] (30 TAC Section 335.151)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
1.Reserved		

Foot Note:

1. Program applies to RCRA-regulated units only.
2. Program applies to releases from solid waste management units (SWMUs) and/or areas of concern (AOCs).
3. Program applies to commingled releases from RCRA-regulated unit and from one or more SWMUs and/or AOCs.
4. Specify the date of Commissions No Further Action approval letter for program requirement and remedy standard completed for all media of concern.

CP Table II: Solid Waste Management Units and/or Areas of Concern Addressed in Permit Section XI.H.

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed [1]
AOC No. 2	N/A	February 11, 2004
AOC No. 3	N/A	April 2, 1982

Foot Note:

1. Specify the date of Commissions No Further Action approval letter for program requirement and remedy standard completed for all media of concern.

CP Table III: Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards (mg/l)
1. AOC No. 1	Benzene	0.005 $^{GW}GW_{Ing}$
	Bromodichloromethane	0.033 $^{GW}GW_{Ing}$
	Carbon tetrachloride	0.005 $^{GW}GW_{Ing}$
	Chlorobenzene	0.1 $^{GW}GW_{Ing}$
	Chloroform	0.73 $^{GW}GW_{Ing}$
	1,2-Dichlorobenzene	0.6 $^{GW}GW_{Ing}$
	1,1-Dichloroethane	15.0 $^{GW}GW_{Ing}$
	1,2-Dichloroethane	0.005 $^{GW}GW_{Ing}$
	1,1-Dichloroethylene	0.007 $^{GW}GW_{Ing}$
	cis-1,2-Dichloroethylene	0.07 $^{GW}GW_{Ing}$
	Trans-1,2-Dichloroethylene	0.1 $^{GW}GW_{Ing}$
	1,2-Dichloropropane	0.005 $^{GW}GW_{Ing}$
	cis-1,3-Dichloropropylene	0.0038 $^{GW}GW_{Ing}$
	trans-1,3-Dichloropropylene	0.02 $^{GW}GW_{Ing}$
	Methyl Ethyl Ketone (2-Butanone)	44.0 $^{GW}GW_{Ing}$
	Methylene Chloride	0.005 $^{GW}GW_{Ing}$
	1,1,2,2-Tetrachloroethane	0.01 $^{GW}GW_{Ing}$
	Tetrachloroethylene	0.005 $^{GW}GW_{Ing}$
	Toluene	1.0 $^{GW}GW_{Ing}$
	1,1,1-Trichloroethane	0.2 $^{GW}GW_{Ing}$
	1,1,2-Trichloroethane	0.005 $^{GW}GW_{Ing}$
	Trichloroethylene	0.005 $^{GW}GW_{Ing}$
	Trichlorofluoromethane	22.0 $^{GW}GW_{Ing}$
	Vinyl Chloride	0.002 $^{GW}GW_{Ing}$
	Xylenes (ortho, meta, para)	10.0 $^{GW}GW_{Ing}$
	Total Antimony	0.006 $^{GW}GW_{Ing}$
	Total Arsenic	0.01 $^{GW}GW_{Ing}$
	Total Barium	2.0 $^{GW}GW_{Ing}$
	Total Chromium	0.1 $^{GW}GW_{Ing}$
	Total Cobalt	0.022 $^{GW}GW_{Ing}$
	Total Copper	1.3 $^{GW}GW_{Ing}$
	Total Lead	0.015 $^{GW}GW_{Ing}$
	Total Nickel	1.5 $^{GW}GW_{Ing}$
	Total Vanadium	0.13 $^{GW}GW_{Ing}$
	Total Zinc	22.0 $^{GW}GW_{Ing}$

Foot Notes:

$^{GW}GW_{Ing}$. ACL pursuant to 30 TAC Section 335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.. In accordance with Section 350.72(b), $^{GW}GW_{Ing}$, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1x10-4) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

CP Table IIIA: Corrective Action Program Table of Indicator Parameters and Groundwater Protection Standard

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standard (mg/l)
1. AOC No. 1	Benzene	0.005 $^{GW}GW_{Ing}$
	Bromodichloromethane	0.033 $^{GW}GW_{Ing}$
	Carbon tetrachloride	0.005 $^{GW}GW_{Ing}$
	Chlorobenzene	0.1 $^{GW}GW_{Ing}$
	Chloroform	0.73 $^{GW}GW_{Ing}$
	1,2-Dichlorobenzene	0.6 $^{GW}GW_{Ing}$
	1,1-Dichloroethane	15.0 $^{GW}GW_{Ing}$
	1,2-Dichloroethane	0.005 $^{GW}GW_{Ing}$
	1,1-Dichloroethylene	0.007 $^{GW}GW_{Ing}$
	cis-1,2-Dichloroethylene	0.07 $^{GW}GW_{Ing}$
	Trans-1,2-Dichloroethylene	0.1 $^{GW}GW_{Ing}$
	1,2-Dichloropropane	0.005 $^{GW}GW_{Ing}$
	cis-1,3-Dichloropropylene	0.0038 $^{GW}GW_{Ing}$
	trans-1,3-Dichloropropylene	0.02 $^{GW}GW_{Ing}$
	Methyl Ethyl Ketone (2-Butanone)	44.0 $^{GW}GW_{Ing}$
	Methylene Chloride	0.005 $^{GW}GW_{Ing}$
	1,1,2,2-Tetrachloroethane	0.01 $^{GW}GW_{Ing}$
	Tetrachloroethylene	0.005 $^{GW}GW_{Ing}$
	Toluene	1.0 $^{GW}GW_{Ing}$
	1,1,1-Trichloroethane	0.2 $^{GW}GW_{Ing}$
	1,1,2-Trichloroethane	0.005 $^{GW}GW_{Ing}$
	Trichloroethylene	0.005 $^{GW}GW_{Ing}$
	Trichlorofluoromethane	22.0 $^{GW}GW_{Ing}$
	Vinyl Chloride	0.002 $^{GW}GW_{Ing}$
	Xylenes (ortho, meta, para)	10.0 $^{GW}GW_{Ing}$
	Total Antimony	0.006 $^{GW}GW_{Ing}$
	Total Cobalt	0.022 $^{GW}GW_{Ing}$
	Total Copper	1.3 $^{GW}GW_{Ing}$
	Total Lead	0.015 $^{GW}GW_{Ing}$
	Total Nickel	1.5 $^{GW}GW_{Ing}$
	Total Vanadium	0.13 $^{GW}GW_{Ing}$
	Total Zinc	22.0 $^{GW}GW_{Ing}$

Foot Notes:

$^{GW}GW_{Ing}$ ACL pursuant to 30 TAC Section 335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table. In accordance with Section 350.72(b), $^{GW}GW_{Ing}$, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1x10-4) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

CP Table V: Designation of Wells

Point of Compliance Wells
1. AOC No. 1
NONE

Point of Exposure Wells
1. AOC No. 1
NONE

Alternate Point of Exposure Wells
1. AOC No. 1
MW-1, MW-6, MW-12, MW-13

Background Wells
1. AOC No. 1
MW-8

Note: Wells that are not listed in this table are subject to change, upon approval by the Executive Director, without modification to the Compliance Plan.

CP Table VI: Compliance Period for RCRA-Regulated Units: (Reserved)

CP Table VII: Reporting Requirements

Item	Program	Reporting Frequency	Requirements
1.	All programs	Annually by March 1	Each report shall be certified by a qualified engineer and/or geologist.
2.	Corrective Action	March 1	A table of all modifications and amendments made to this Compliance Plan with their corresponding approval dates by the executive director of the Commission and a brief description of each action;
3.	Corrective Action	March 1	A summary of any action within an area subject to institutional control.
4.	Corrective Action	March 1	Tabulation of well casing elevations in accordance with CP Attachment C;
5.	Corrective Action	March 1	Certification and well installation diagram for any new well installation or replacement and certification for any well plugging and abandonment;
6.	Corrective Action	March 1	Recommendation for any changes to the program;
7.	Corrective Action	March 1	Any other items requested by the executive director.
8.	Corrective Action	March 1	Water table maps shall be prepared from the ground-water data collected pursuant to Provision XI.G. and shall be evaluated by the permittee with regard to the following parameters: a. Direction and gradient of ground-water flow; and, b. Estimation of the rate and direction of ground-water contamination migration.
9.	Corrective Action	March 1	The permittee shall submit a report to each recipient listed in Provision XI.J.3., which includes the following information in items 3 through 24 determined since the previously submitted report, if those items are applicable.
10.	Corrective Action	March 1	The Corrective Action System(s) authorized under Provision XI.B.3. in operation during the reporting period and a narrative summary of the evaluations made in accordance with Provisions XI.E, XI.F., and XI.G. of this Compliance Plan for the preceding reporting period. The reporting periods shall be January 1 through June 30 and July 1 through December 31 for Corrective Action Monitoring, unless an alternative semiannual schedule is approved by the Commission.
11.	Corrective Action	March 1	The method(s) utilized for management of recovered/purged ground water shall be identified in accordance with Provision XI.B.8. The permittee shall maintain this list as part of the facility operating record and make it available for inspection upon request.

Item	Program	Reporting Frequency	Requirements
12.	Corrective Action	March 1	An updated table and map of all monitoring and corrective action system wells. The wells to be sampled shall be those wells proposed in the Compliance Plan Application referenced in Provision XI.A.7. and any changes subsequently approved by the executive director pursuant to Provision XI.B.3. Provide in chronological order, a list of those wells which have been added to, or deleted from, the ground-water monitoring and remediation systems since original issuance of the Compliance Plan. Include the date of the Commission's approval for each entry.
13.	Corrective Action	March 1	The results of the chemical analyses, submitted in a tabulated format acceptable to the executive director which clearly indicates each parameter that exceeds the Ground-Water Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the executive director.
14.	Corrective Action	March 1	Tabulation of all water level elevations required in Provision XI.F.3.d.(1)., depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous monitoring report;
15.	Corrective Action	March 1	Potentiometric surface maps showing the elevation of the water table at the time of sampling, delineation of the radius of influence of the Corrective Action System, and the direction of ground-water flow gradients outside any radius of influence;
16.	Corrective Action	March 1	Tabulation of all data evaluation results pursuant to Provision XI.F.4. and status of each well with regard to compliance with the Corrective Action objectives and compliance with the GWPS;
17.	Corrective Action	March 1	An updated summary as required by CP Table VIII;
18.	Corrective Action	March 1	Summary of any changes made to the monitoring/corrective action program and a summary of well inspections, repairs, and any operational difficulties;
19.	Corrective Action	March 1	A notation of the presence or absence of non-aqueous phase liquids (NAPLs), both light and dense phases, in each well during each sampling event since the last event covered in the previous monitoring report and tabulation of depth and thickness of NAPLs, if detected;

Item	Program	Reporting Frequency	Requirements
20.	Corrective Action	March 1	Maps of the contaminated area where GWPSs are exceeded depicting concentrations of CP Table IIIA constituents and any newly detected CP Table III constituents as isopleth contours or discrete concentrations if isopleth contours cannot be inferred. Areas where concentrations of constituents exceed the GWPS should be clearly delineated. Depict the boundary of the plume management zone (PMZ), if applicable;
21.	Corrective Action	March 1	A summary evaluating the effectiveness of the corrective action system in controlling migration beyond the downgradient boundary and vertical limit of the PMZ to achieve the GWPS. The summary shall include an evaluation of whether the attenuation action levels are not exceeded at their respective attenuation monitoring points pursuant to 30 TAC Sections 350.33(f)(4)(A) and 350.33(f)(4)(D)(ii), if applicable;
22.	Corrective Action	March 1	An estimate of the percentage of the response action which has been completed within the PMZ, if applicable;
23.	Corrective Action	March 1	An estimate in years of the additional time necessary to complete the response actions for the PMZ, if applicable;
24.	Corrective Action	March 1	A determination whether sufficient progress is being made to achieve the selected remedy standard within a reasonable time frame given the circumstance of the affected property in the PMZ, if applicable.

CP Table IV: Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits

Unit Name	Column A Hazardous Constituents	Column B Concentration Limits (mg/l)
RESERVED		

CP Table IVA: Compliance Monitoring Program Table of Detected Hazardous Constituents and the Groundwater Protection Standard

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standard (mg/l)
RESERVED		

Permit No. 50326 — Continuation Sheet 1 of 1

Philip Reclamation Services, Houston, LLC — Attachment A

Volume 1420, PG 473, H.C.D.R. Wilson Survey A-32

DESCRIPTION OF PROPERTY

BEING 5.000 ACRES OF LAND (CALL 5.000 ACRE TRACT) MORE OR LESS BEING THE RESIDUE OF A 8.250 ACRE TRACT DESCRIBED IN DEED FILED JANUARY 20, 1994 IN VOLUME 1305, PAGE 692, AND COUNTY CLERK'S FILE NUMBER 170660 FROM SUBURBAN REALTY CO. TO LORTEP LABORATORIES, INC., IN THE WILSON SURVEY, ABSTRACT NO. 32 HARRIS COUNTY, TEXAS;

SAVE AND EXCEPT 1.157 ACRES OUT OF THE 8.250 ACRES IN DEED FILE MARCH 20, 1977 UNDER COOUNTY CLERK'S FILE NUMBER F068570 TO SHARKEY CO. A 1.96 ACRE TRACT OUT OF THE 8.250 ACRES IN DEED FILE APRIL 22, 1977 TO SHARKEY CONTAINER CO. UNDER CLERK'S FILE NUMBER F116798 AND A 0.0652 ACRE TRACT OUT OF THE 8.250 ACRES IN DEED FILE AUGUST 30, 1979 UNDER CLERK'S FILE NUMBER 0219467 TO NATHAN SHARKEY;

BEGINNING AT THE SOUTHEAST CORNER OF HOMESTEAD ROAD, 100.00' FOOT R.O.W. AND CALVACADE ROAD, 100.00 FOOT R.O.W. AT A CHISELED "X" IN CONCRETE WALK;

THENCE N.89°33'00"E. (CALL EAST,) ALONG THE SOUTH R.O.W. LINE OF CALVACADE ROAD AND THE NORTH LINE OF SAID 5.000 ACRE TRACT A DISTANCE OF 400.00 FEET TO A ½ INCH IRON ROD SET BEING THE NORTHEAST CORNER OF SAID TRACT;

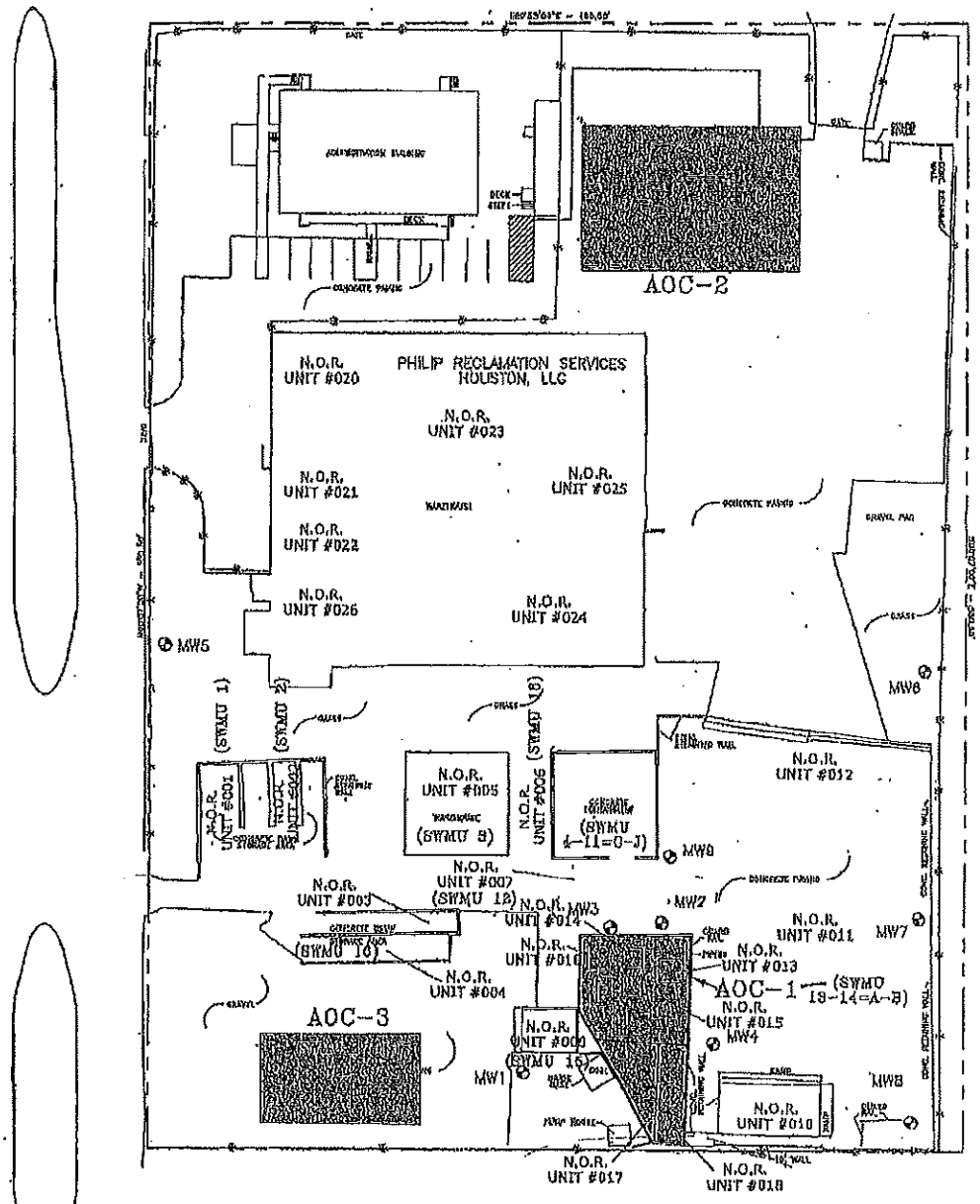
THENCE S.06°07'00"E. (CALL SOUTH) ALONG THE EAST LINE OF SAID TRACT AND THE WEST R.O.W. LINE OF [illegible] R.R. [illegible] WIDE IN VOLUME, 1420 PAGE 475, H.C.D.R. A DISTANCE OF 550.50 FEET (CALL 551.90' FEET) TO A ½ INCH IRON ROD SET BEING THE NORTHEAST CORNER OF 8.8070 ACRE TRACT HCM CODE NO. [illegible] AND THE SOUTHEAST CORNER OF SAID TRACT;

THENCE [illegible] W. (CALL WEST) ALONG THE NORTH LINE OF 8.8070 ACRE TRACT AND THE SOUTH LINE OF SAID 5.000 ACRE TRACT A DISTANCE OF 400.00 FEET TO A ½ INCH IRON ROD SET BENG THE SOUTHWESTERN CORNER OF SAID TRACT;

THENCE N.06°07'00"W. (CALL NORTH) ALONG THE EAST R.O.W. OF HOMESTEAD ROAD AND THE WEST LINE OF SAID TRACT A DISTANCE OF 550.50 FEET (CALL 551.90 FEET) TO THE PLACE OF THE BEGINNING.

Attachment B

Permit No. 50326



NOTES: 1. MW1 through MW4 are Area of Concern No. 1 compliance wells. MW5 is a background well and MW6 through MW9 are observation/supplemental wells.

LEGEND

MW1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER

PROPERTY BOUNDARY / FACILITY OPERATIONS AREA

AOC/NOR/SWMU AREA OF CONCERN / NOTICE OF REGISTRATION / SOILD WASTE MANAGMENT UNIT

0 80 FEET

N

TITLE: HISTORICAL AOC / NOR / SWMU LOCATION SUMMARY	DWN: TMM	DES.: KDO	PROJECT NO.: 62490005 PHILIP RECLAMATION SERVICES HOUSTON, TEXAS
	CHKD:	APPD:	
	DATE: 5/13/09	REV.: 0	

List of Incorporated Application Materials

The following is a list of Part A and Part B Industrial & Hazardous Waste Application elements which are incorporated into all Industrial & Hazardous Waste permits by reference as per Provision I.B.

TCEQ Part A Application Form

I. General Information
II. Facility Background Information
III. Wastes and Waste Management
IV. Index of Attachments

TCEQ Part B Application Form

I. General Information

A. Applicant Name
B. Facility Owner
C. Facility Contact
D. Application Type and Facility Status
E. Facility Siting Summary
F. Wastewater and Stormwater Disposition
G. Information Required to Provide Notice
H. TCEQ Core Data Form Requirements
I. Signature on Application

II. Facility Siting Criteria

A. Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills
B. Additional Requirements for Land Treatment Facilities
C. Additional Requirements for Waste Piles
D. Additional Requirements for Storage Surface Impoundments
E. Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with Wastes in Place)
F. Flooding
G. Additional Information Requirements

III. Facility Management

A. Compliance History and Applicant Experience
B. Personnel Training Plan
C. Security
D. Inspection Schedule
E. Contingency Plan
F Emergency Response Plan

Table III.D. - Inspection Schedule
Table III.E.1. - Arrangements with Local Authorities
Table III.E.2. - Emergency Coordinators
Table III.E.3. - Emergency Equipment

IV. Wastes And Waste Analysis

A. Waste Management Information
B. Wastes Managed In Permitted Units
C. Sampling and Analytical Methods
D. Waste Analysis Plan

Table IV.A. - Waste Management Information
Table IV.B. - Wastes Managed in Permitted Units
Table IV.C. - Sampling and Analytical Methods

V. Engineering Reports

A. General Engineering Reports
B. Container Storage Areas
C. Tanks and Tank Systems
D. Surface Impoundments [Reserved]
E. Waste Piles [Reserved]
F. Land Treatment Units [Reserved]
G. Landfills [Reserved]
H. Incinerators [Reserved]
I. Boilers and Industrial Furnaces [Reserved]
J. Drip Pads [Reserved]
K. Miscellaneous Units [Reserved]
L. Containment Buildings [Reserved]

Table V.A. Facility Waste Management Handling Units
Table V.B. - Container Storage Areas
Table V.C. - Tanks and Tank Systems

VI. Geology Report

A. Geology and Topography
B. Facility Groundwater

Table VI.A.1. - Major Geologic Formations
Table VI.A.4. - Waste Management Area Subsurface Conditions
Table VI.B.3.b. - Unit Groundwater Detection Monitoring System
Table VI.B.3.c. - Groundwater Sample Analysis

VII. Closure And Post-Closure Plans

A. Closure
B. Closure Cost Estimate
C. Post-closure
D. Post-closure Cost Estimate
Closure and Post-Closure Cost Summary

Table VII.A. - Unit Closure
Table VII.B. - Unit Closure Cost Estimate
Table VII.E.1. - Permitted Unit Closure Cost Summary

VIII. Financial Assurance

A. Financial Assurance Information Requirements for all Applicants

B. Applicant Financial Disclosure Statements for a new permit, permit amendment, or permit modification, or permit renewal
C. Applicants Requesting Facility Expansion, Capacity Expansion, or New Construction

Information for Applicants Subject to Financial Capability Requirements
Table VIII. B. - Estimated Capital Costs

IX. Releases From Solid Waste Units And Corrective Action

A. Preliminary Review Checklists
For Applications for a New Hazardous Waste Permit
For Applications for a Renewal/Amendment/Modification of an Existing Hazardous Waste Permit
Instructions for Preliminary Review Facility Checklist
Instructions for Preliminary Review Unit Checklist (Continued)
Preliminary Review Facility Checklist
Preliminary Review Unit Checklist
Appendices to Preliminary Review (PR)

X. Air Emission Standards

A. Process Vents
B. Equipment Leaks
C. Tanks, Surface Impoundments, and Containers
D. "One - Stop" Permit s

Table X.A. - Process Vents
Table X.B. - Equipment Leaks
Table X.D.1(a) - Emission Point Parameters
General Instructions for Table X.D.1(a)
Table X.D.7 - For Fugitive Sources
Table 74-82 - Storage Tank Summary

XI. Compliance Plan

A. Site Specific Information
B. Groundwater Protection Standard
C. Compliance Monitoring Program
D. Corrective Action Program
E. Cost Estimates for Financial Assurance

Table XI.A.1. - Facility History for Waste Management Units
Table XI.E.1. - Corrective Action Program Cost Estimate
Table XI.E.2. - Groundwater Monitoring Cost Estimate
Table XI.E.3. - Financial Assurance Summary
CP Table I - Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring
CP Table II - Solid Waste Management Units and Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167
CP Table III - Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard
CP Table IIIA - Corrective Action Program Table of Indicator Parameters and t Groundwater Protection Standard
CP Table IV - Compliance Monitoring Program Table of Hazardous and Solid Waste

Authorized Permitted Units

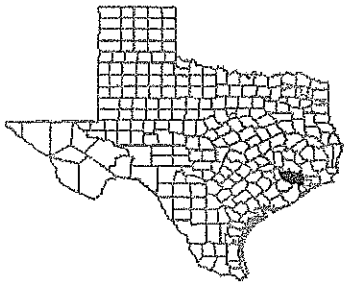
TCEQ Permit Unit No.[1]	Unit Name	NOR No.[1]	Unit Description	Capacity	Unit Status[2]
001	Container Storage Area	002	Container Storage Area	13,750 G	Active
002	Container Storage Area	003	Container Storage Area	9,350 G	Active
003	Container Storage Area	004	Container Storage Area	9,350 G	Active
004	Old Lab Pack Area	005	Container Storage Area	24,750 G	Active
005	Sheet Metal Covered Area	006	Container Storage Area	8,250 G	Active
006	Roll-off Bin Storage Area	007	Container Storage Area	30 CY	Active
007	Roll-off Bin Storage Area	008	Container Storage Area	60 CY	Active
008	Roll-off Bin Storage Area	010	Container Storage Area	150 CY	Active
015A	Drum Storage Warehouse	020	Container Storage Area	22,000 G	Inactive
015B	Drum Storage Warehouse	021	Container Storage Area	13,200 G	Inactive
015C	Drum Storage Warehouse	022	Container Storage Area	8,800 G	Inactive
015D	Drum Storage Warehouse	023	Container Storage Area	19,800 G	Inactive
015E	Drum Storage Warehouse	024	Container Storage Area	12,320 G	Inactive
040	Warehouse Bulking Platform	025	Container Storage Area	80 CY	Active
041	Lab Pack Processing Area	026	Container Storage Area	1,430 G	Active
043	Non-Hazardous Storage Area	001	Container Storage Area	5,500 G	Active
044	Outside Storage & Staging Area	011	Container Storage Area	55,000 G	Active
009	Fuel Blending	013	Tank	16,800 G	Active
010	Wastewater	014	Tank	8,820 G	Active
011	Wastewater	015	Tank	8,820 G	Active
012	Lean Water	016	Tank	8,400 G	Active
013	Storage Tank	017	Tank	3,600 G	Inactive
014	Storage Tank	018	Tank	3,600 G	Inactive
028	Storage Tank	045	Tank	16,800 G	Proposed
029	Storage Tank	046	Tank	16,800 G	Proposed
030	Storage Tank	047	Tank	16,800 G	Proposed
031	Storage Tank	048	Tank	16,800 G	Proposed

Historical Permitted Units No longer Subject to this Permit[4]

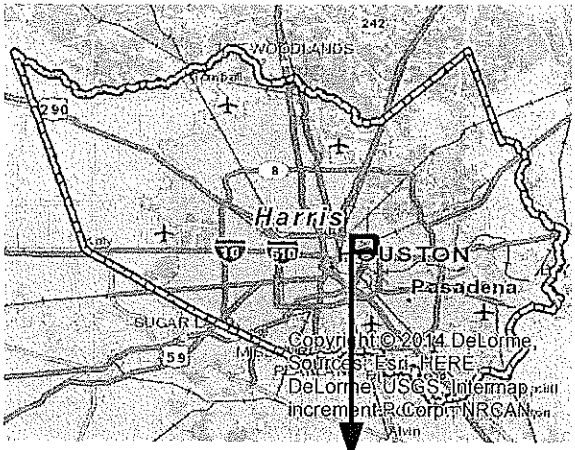
TCEQ Permit Unit No.[1]	Unit Name	NOR No.[1]	Unit Description[3]	Capacity	Unit Status[2]

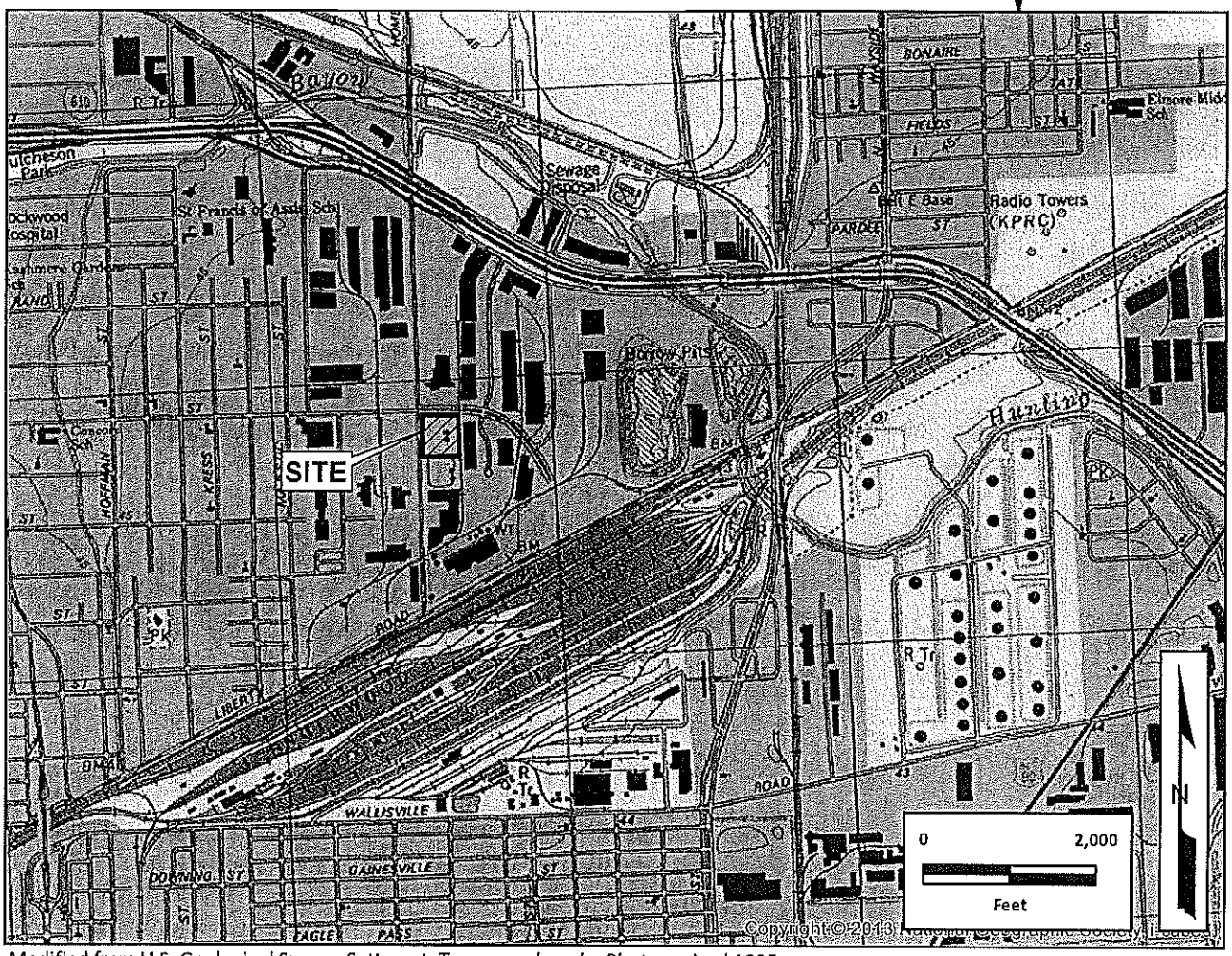
[1]Permitted Unit No. and NOR No. cannot be reassigned to new units or used more than once and all units that were in the Attachment D of a previously issued permit must be listed.
[2]Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.
[3]If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column of Table V.A.
[4]The historical units are closed and/or no longer subject to RCRA permit requirements and [is/are] included in this table for informational purposes.
CY = cubic yards; G = gallon

TEXAS



HARRIS COUNTY





Modified from U.S. Geological Survey, Settegast, Texas, quadrangle, Photo revised 1995

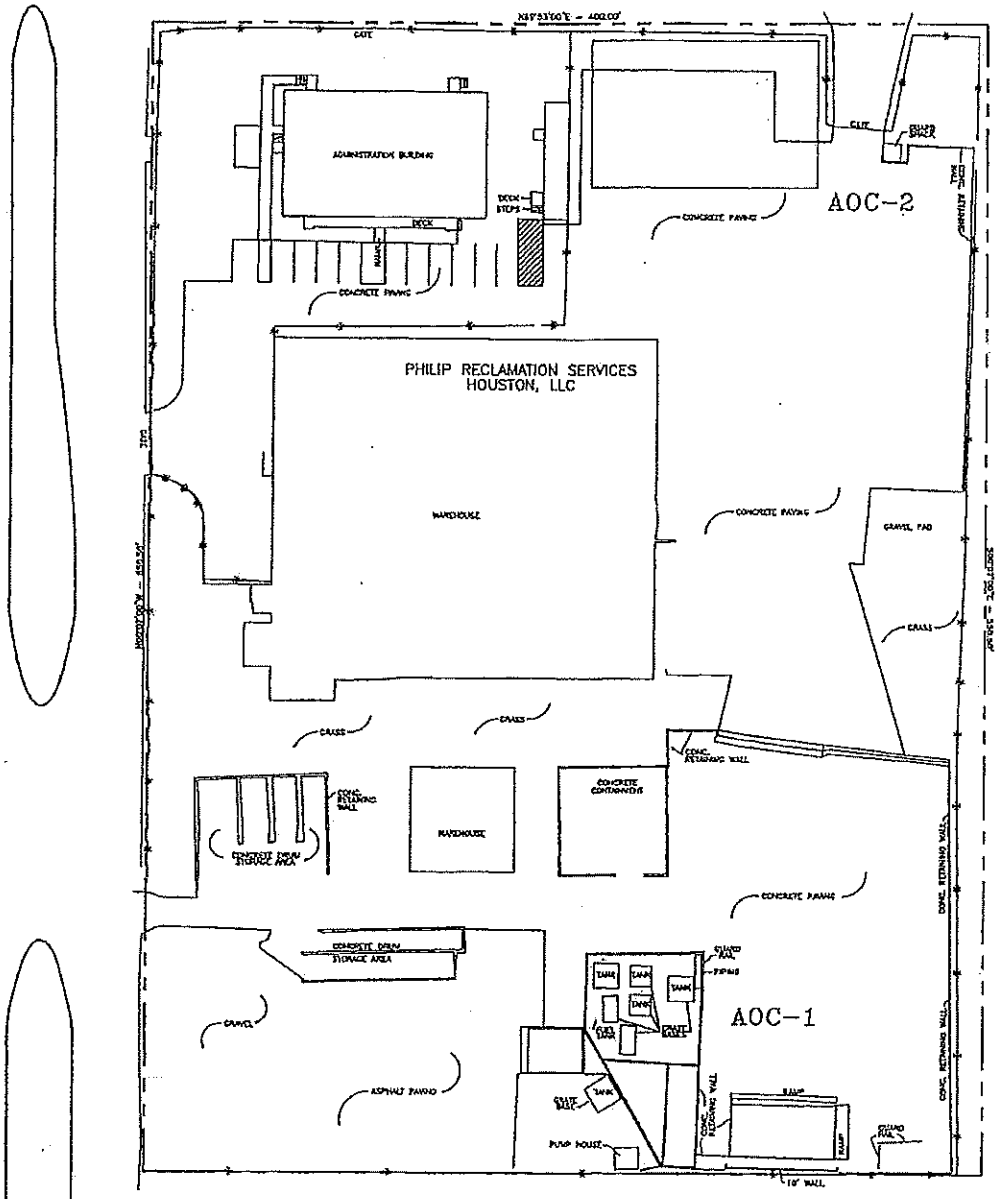
PHILIP RECLAMATION SERVICES
4050 Homestead Road,
Houston, TX

Project No. 70100612-02.001

Apex Titan, Inc.
11391 Meadowglen Lane, Suite H
Houston, TX 77082
Phone: (281) 497-1665
www.apexcos.com
A Subsidiary of Apex Companies, LLC

CP ATTACHMENT A, SHEET 1 OF 4

FACILITY SITE MAP



LEGEND

AREA OF CONCERN

PROPERTY BOUNDARY / FACILITY OPERATIONS AREA

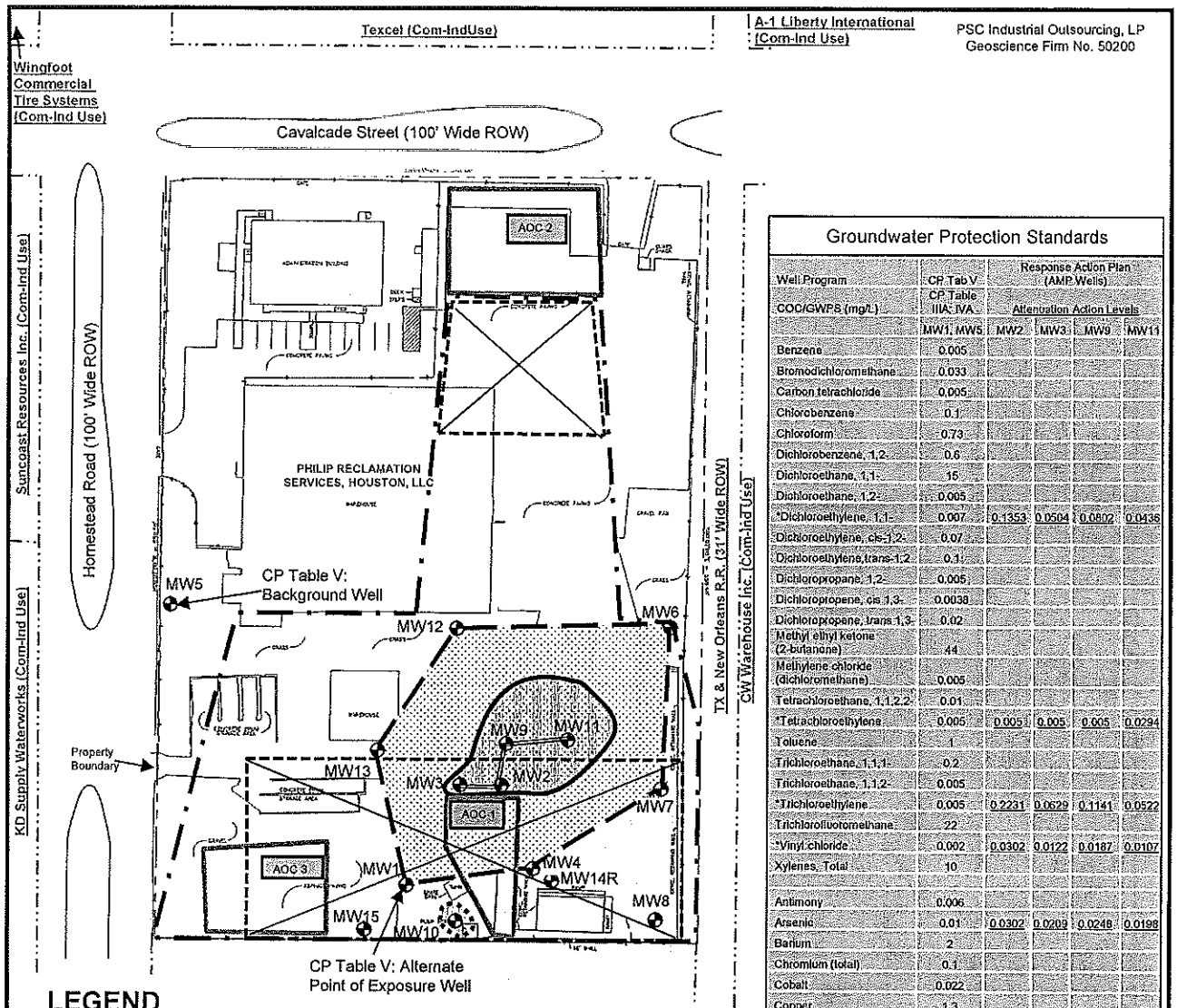
0 80

FEET

N

TITLE: CP ATTACHMENT A, SHEET 2 OF 4 SWMU LOCATION MAP	DWN: TMM	DES.: KDO	PROJECT NO.: 62409080067 PHILIP RECLAMATION SERVICES HOUSTON, TEXAS
	CHKD:	APPD:	
	DATE: 10/27/09	REV.:	

COL 624\90_-013



Groundwater Protection Standards

Well Program	CP Tab V	Response Action Plan (AMP Wells)				
COC/GWPS (mg/L)	CP Table IIIA, IVA	Attenuation Action Levels				
	MW1, MW5	MW2	MW3	MW9	MW11	
Benzene	0.005					
Bromodichloromethane	0.033					
Carbon tetrachloride	0.005					
Chlorobenzene	0.1					
Chloroform	0.73					
Dichlorobenzene, 1,2-	0.6					
Dichloroethane, 1,1-	15					
Dichloroethane, 1,2-	0.005					
*Dichloroethylene, 1,1-	0.007	0.1353	0.0504	0.0802	0.0436	
Dichloroethylene, cis-1,2-	0.07					
Dichloroethylene, trans-1,2-	0.1					
Dichloropropane, 1,2-	0.005					
Dichloropropene, cis 1,3-	0.0038					
Dichloropropene, trans 1,3-	0.02					
Methyl ethyl ketone (2-butanone)	44					
Methylene chloride (dichloromethane)	0.005					
Tetrachloroethane, 1,1,2,2-	0.01					
*Tetrachloroethylene	0.005	0.0051	0.005	0.005	0.0294	
Toluene	1					
Trichloroethane, 1,1,1-	0.2					
Trichloroethane, 1,1,2-	0.005					
*Trichloroethylene	0.005	0.2231	0.0629	0.1141	0.0522	
Trichlorofluoromethane	22					
*Vinyl chloride	0.002	0.0302	0.0122	0.0187	0.0107	
Xylenes, Total	10					
Antimony	0.006					
Arsenic	0.01	0.0302	0.0209	0.0248	0.0198	
Barium	2					
Chromium (total)	0.1					
Cobalt	0.022					
Copper	1.3					
Lead (inorganic)	0.015					
Nickel and compounds	1.5					
Vanadium	0.13					
Zinc	22					

Note: Wells MW-4, MW-6, 7, 8, 12, 13, 14R, 15 are supplemental wells for optional depth to water and presence of NAPL monitoring only.

LEGEND

- MW1 — Monitoring Well Location, ID
- Approximate Affected Property Extent – All Exposure Pathways
- Approximate Remedy Standard B Soil Physical Control Areas Extent
- Approximate TRRP Tier 1 Com-Ind Protection Concentration Level (PCL) Exceedance Extent (VOC*; Arsenic Only)
- Approximate TRRP Tier 1 Com-Ind Protection Concentration Level (PCL) Exceedance Extent (Cobalt Only)
- Remedy Standard B Plume Management Zone - Bounded by MW1,13, 2,6,7,4; (VOC*; Arsenic Only). Exposure to groundwater within the PMZ is not advised until PCL are met.
- Attenuation Monitoring Profile Well Alignment (MW2,3,9,11)

Well IDs	GWBU	Filter Pack Interval (feet below grade)
MW-1 to 13	Upper	11-30
MW-14R to 15	Lower	56-65

Approximate Scale and Geographic North

0 Horizontal 120'

Feet

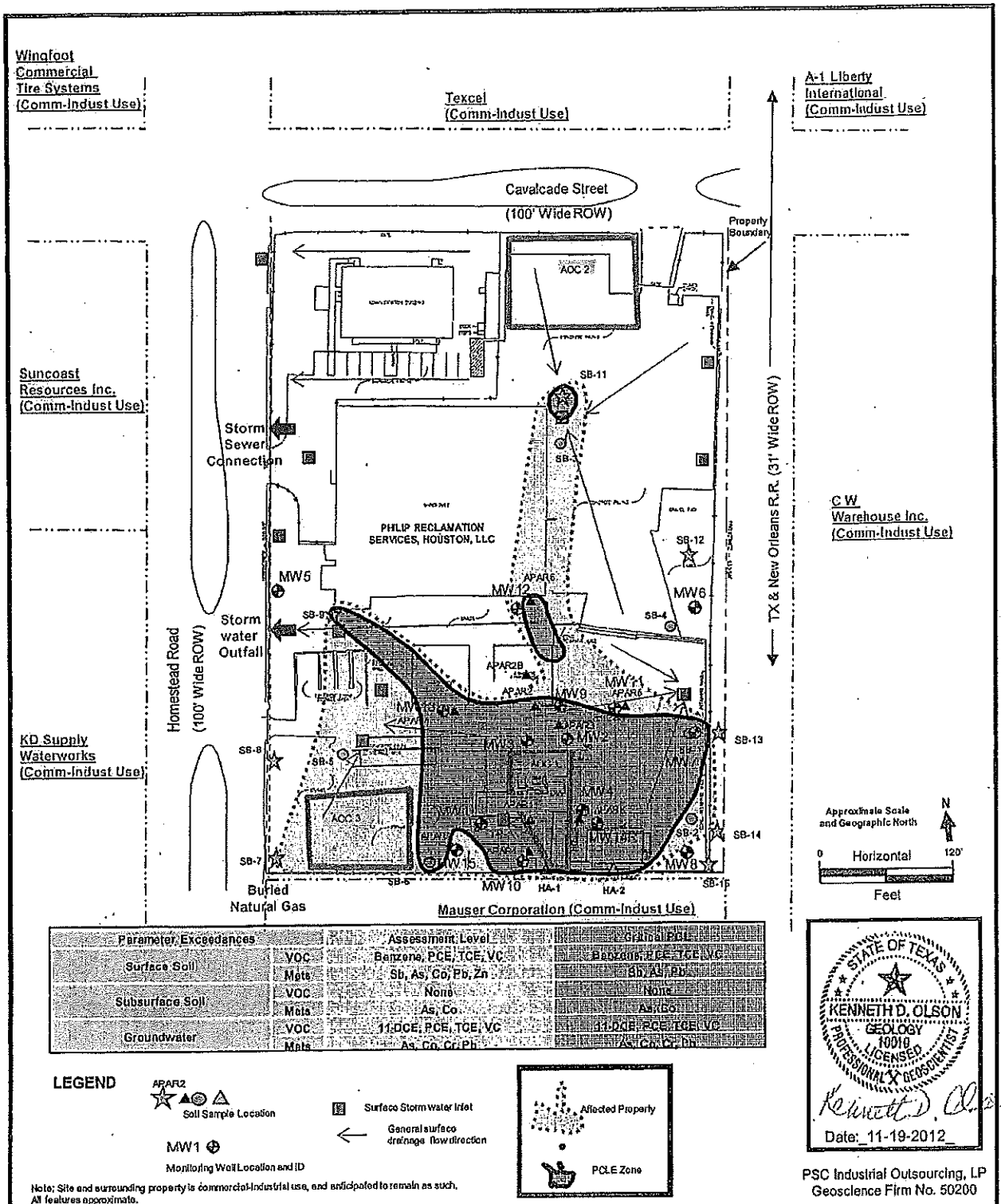
N

Note: The critical PCL exceedance for Total Cobalt in MW10 is not part of the PMZ, and is being addressed by trend evaluation. Long Term Response Action and Commercial/Industrial Land Use apply to the Affected Property.

CP ATTACHMENT A, SHEET 3 OF 4

PLUME MANAGEMENT ZONE AND WELL LOCATION MAP

DWN:	PGRM:	Project Number: 624-0908-0067
KDO	KDO	PHILIP RECLAMATION SERVICES HOUSTON, TEXAS
DATE:	REV:	
	0	



Parameter Exceedances		Assessment Level	Critical PCLE
Surface Soil	VOC	Benzene, PCE, TCE, VC	Benzene, PCE, TCE, VC
	Mets	Sb, As, Co, Pb, Zn	Sb, As, Pb
Subsurface Soil	VOC	None	None
	Mets	As, Co	As, Co
Groundwater	VOC	11-DCE, PCE, TCE, VC	11-DCE, PCE, TCE, VC
	Mets	As, Co, Cr, Pb	As, Co, Cr, Pb

LEGEND

APAR2 — Soil Sample Location

MW1 — Monitoring Well Location and ID

Surface Storm water Inlet

General surface drainage flow direction

Affected Property

PCLE Zone

Note: Site and surrounding property is commercial-industrial use, and anticipated to remain as such. All features approximate.

STATE OF TEXAS
KENNETH D. OLSON
GEOLOGY
10019
LICENSED
PROFESSIONAL GEOSCIENTIST

Date: 11-19-2012

PSC Industrial Outsourcing, LP
Geoscience Firm No. 50200

CP ATTACHMENT A, SHEET 4 OF 4

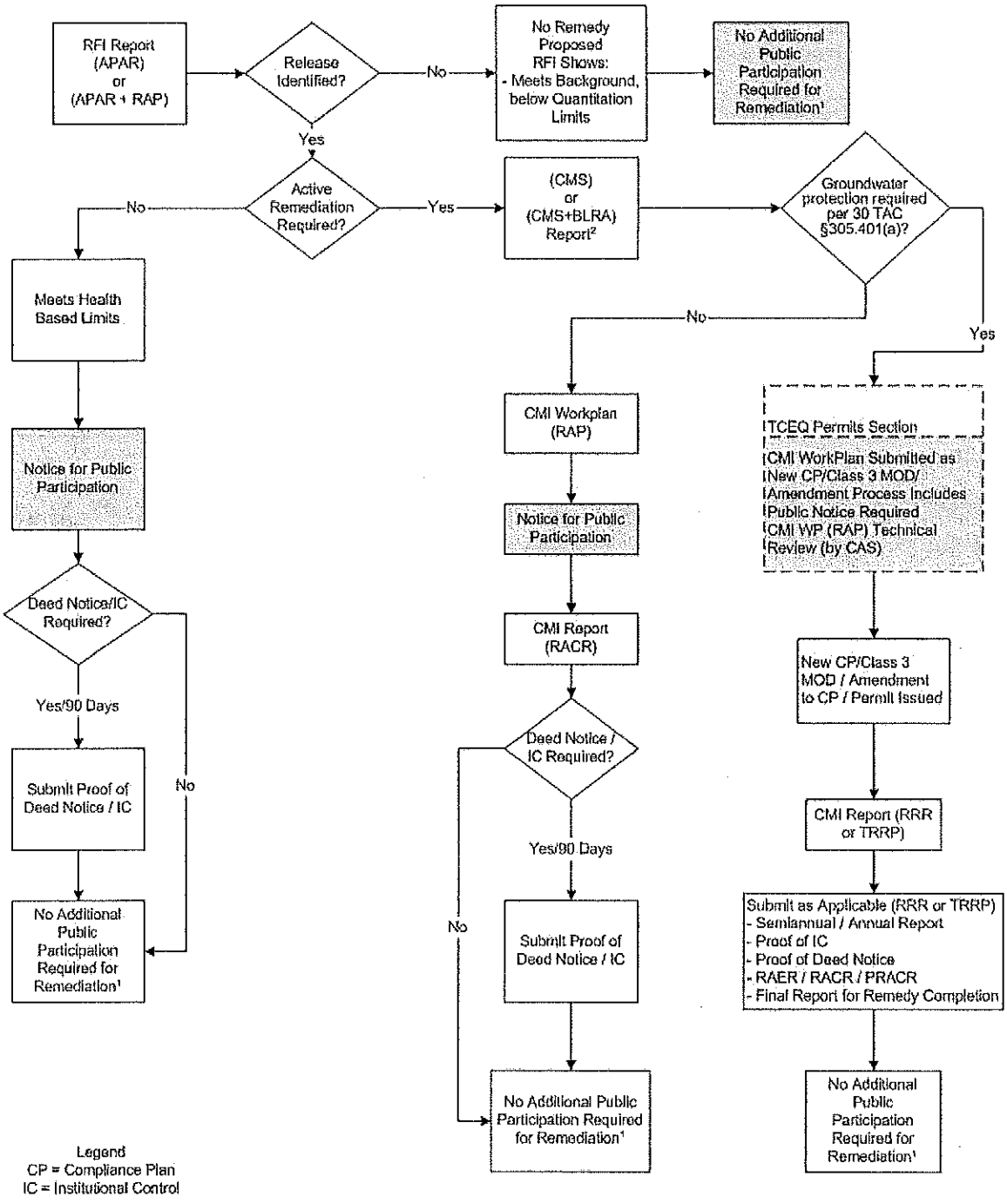
AFFECTED PROPERTY AND PCLE ZONE

DWN: KDO	PGRN: KDO	Project Number: 624-0506.0067
		PRS-HOUSTON, LLC HOUSTON, TEXAS
DATE:	REV:	

CP Attachment B, Sheet 1 of 1

Public Participation in HSWA Corrective Action

6/22/2005



1 To Incorporate a Status Change to RFI unit(s) in the Permit or CP Requires Modification and Public Notice through the Permits Section
2 As Required by Rule, Permit, or CP

CP Attachment C: Well Design, Construction, Installation, Certification, Plugging and Abandonment Procedures and Specifications

1. The Permittee shall use well drilling methods that minimize potential adverse effects on the quality of water samples withdrawn from the well, and that minimize or eliminate the introduction of foreign fluids into the borehole.

2. All wells constructed to meet the terms of this Compliance Plan shall be constructed such that the wells can be routinely sampled with a pump, bailer, or alternate sampling device. Piping associated with recovery wells should be fitted with sample ports or an acceptable alternative sampling method to facilitate sampling of the recovered groundwater on a well by well basis.

3. Above the saturated zone the well casing may be two (2)-inch diameter or larger schedule 40 or 80 polyvinyl chloride (PVC) rigid pipe or stainless steel or polytetrafluoroethylene (PTFE or "teflon") or an approved alternate material. The PVC casing must bear the National Sanitation Foundation logo for potable water applications (NSF-pw). Solvent cementing compounds shall not be used to bond joints and all connections shall be flush-threaded. In and below the saturated zone, the well casing shall be stainless steel or PTFE.

   The Permittee may use PVC or fiberglass reinforced resin as an alternate well casing material in and below the saturated zone provided that it yields samples for groundwater quality analysis that are unaffected by the well casing material.

4. The Permittee shall replace any well that has deteriorated due to incompatibility of the casing material with the groundwater contaminants or due to any other factors. Replacement of the damaged well shall be completed within ninety (90) days of the date of the inspection that identified the deterioration.

5. Well casings and screens shall be steam cleaned prior to installation to remove all oils, greases, and waxes. Well casings and screens made of fluorocarbon resins shall be cleaned by detergent washing.

6. For wells constructed after the date of issuance of this Compliance Plan, the screen length shall not exceed ten (10) feet within a given transmissive zone unless otherwise approved by the Executive Director. Screen lengths exceeding ten (10) feet may be installed in groundwater recovery or injection wells to optimize the groundwater remediation process in accordance with standard engineering practice.

7. The Permittee shall design and construct the intake portion of a well so as to allow sufficient water flow into the well for sampling purposes and minimize the passage of formation materials into the well during pumping. The intake portion of a well shall consist of commercially manufactured stainless steel or PTFE screen or approved alternate material. The annular space between the screen and the borehole shall be filled with clean siliceous granular material (i.e., filter pack) that has a proper size gradation to provide mechanical retention of the formation sand and silt. The well screen slot size shall be compatible with the filter pack size as determined by sieve analysis data. The filter pack should extend no more than three (3) feet above the well screen. A silt trap, no greater than one (1) foot in length, may be added to the bottom of the well screen to collect any silt that may enter the well. The bottom of the well casing shall be capped with PTFE or stainless steel or approved alternate material.

Groundwater recovery and injection wells shall be designed in accordance with standard engineering practice to ensure adequate well production and accommodate ancillary equipment. Silt traps exceeding one (1) foot may be utilized to accommodate ancillary equipment. Well heads shall be fitted with mechanical wellseals, or equivalent, to prevent entry of surface water or debris.

8. A minimum of two (2) feet of pellet or granular bentonite shall immediately overlie the filter pack in the annular space between the well casing and borehole. Where the saturated zone extends above the filter pack, pellet or granular bentonite shall be used to seal the annulus. The bentonite shall be allowed to settle and hydrate for a sufficient amount of time prior to placement of grout in the annular space. Above the minimum two (2)-foot thick bentonite seal, the annular space shall be sealed with a cement/bentonite grout mixture. The grout shall be placed in the annular space by means of a tremie pipe or pressure grouting methods equivalent to tremie grouting standards.

   The cement/bentonite grout mixture or TCEQ approved alternative grout mixture shall fill the annular space to within two (2) feet of the surface. A suitable amount of time shall be allowed for settling to occur. The annular space shall be sealed with concrete, blending into a cement apron at the surface that extends at least two (2) feet from the outer edge of the monitor well for above-ground completions. Alternative annular-space seal material may be proposed with justification and must be approved by the Executive Director prior to installation.

   In cases where flush-to-ground completions are unavoidable, a protective structure such as a utility vault or meter box should be installed around the well casing and the concrete pad design should prevent infiltration of water into the vault. In addition, the Permittee must ensure that 1) the well/cap juncture is watertight; 2) the bond between the cement surface seal and the protective structure is watertight; and 3) the protective structure with a steel lid or manhole cover has a rubber seal or gasket.

9. Water added as a drilling fluid to a well shall contain no bacteriological or chemical constituents that could interfere with the formation or with the chemical constituents being monitored. For groundwater recovery and injection wells, drilling fluids containing freshwater and treatment agents may be utilized in accordance with standard engineering practice to facilitate proper well installation. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

10. Upon completion of installation of a well, the well must be developed to remove any fluids used during well drilling and to remove fines from the formation to provide a particulate-free discharge to the extent achievable by accepted completion methods and by commercially available well screens. Development shall be accomplished by reversing flow direction, surging the well or by air lift procedures. No fluids other than formation water shall be added during development of a well unless the aquifer to be screened is a low-yielding water-bearing aquifer. In these cases, the water to be added should be chemically analyzed to evaluate its potential impact on in-situ water quality, and to assess the potential for formation damage.

    For recovery and injection wells, well development methods may be utilized in accordance with standard engineering practice to remove fines and maximize well efficiency and specific capacity.

Addition of freshwater and treatment agents may be utilized during well development or re-development to remove drilling fluids, inorganic scale or bacterial slime. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

11. Each well shall be secured and/or designed to maintain the integrity of the well borehole and groundwater.

12. The Permittee shall protect the above-ground portion of the well by bumper guards and/or metal outer casing protection when wells are located in traffic areas or outside the secured plant area.

13. The attached Table Of Well Construction Details is to be completed or updated for each well installed and kept on site. Items in the table that require a yes or no answer indicate diagrams plans, or procedures that shall be kept on site and made available to inspection. The completed table and other records shall include all of the following information:

- name/number of well (well designation);
- intended use of the well(sampling, recovery, etc.);
- date/time of construction;
- drilling method and drilling fluid used;
- well location (+ 0.5 ft.);
- bore hole diameter and well casing diameter;
- well depth (+ 0.1 ft.);
- drilling and lithologic logs;
- depth to first saturated zone;
- casing materials;
- screen materials and design;
- casing and screen joint type;
- screen slot size/length;
- filter pack material/size;
- filter pack volume (how many bags, buckets, etc.);
- filter pack placement method;
- sealant materials;
- sealant volume (how many bags, buckets, etc.);
- sealant placement method;
- surface seal design/construction;
- well development procedure;
- type of protective well cap;
- ground surface elevation (+ 0.01 ft. MSL);
- top of casing elevation (+ 0.01 ft. MSL); and,
- detailed drawing of well (include dimensions).

14. The Permittee shall clearly mark and maintain the well number on each well at the site.

15. The Permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The Permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals.

16. A well's screened interval shall be appropriately designed and installed to meet the well's specific objective (i.e., either DNAPL, LNAPL, both, or other objective of the well). All wells designed to detect, monitor, or recover DNAPL must be drilled to intercept the bottom confining layer of the aquifer. The screened interval to detect DNAPL should extend from the top of the lower confining layer to above the portion of the aquifer saturated with DNAPL. The screened interval for all wells designed to detect, monitor, or recover LNAPL must extend high enough into the vadose zone to provide for fluctuations in the seasonal water table. In addition, the sandpacks for the recovery or monitoring well's screened interval shall be coarser than surrounding media to ensure the movement of NAPL to the well.

Certification, Plugging and Abandonment Procedures

17. Prior to installation of a Point of Compliance (POC), FOA Boundary of Compliance (FBOC), Point of Exposure (POE), Alternate Point of Exposure (APOE) or Background replacement well listed in CP Table V, the Permittee shall submit to the Executive Director for approval, the replacement well specifications and an explanation of why the well is being replaced. For any such well to be considered as a replacement well and not as a new well, the well shall have no substantive design changes from the well being replaced as determined by the Executive Director. The well shall be drilled within fifteen (15) feet of the well being replaced unless an alternate location is authorized by the Executive Director. The Permittee shall submit a replacement well certification to the Executive Director in accordance with CP Table VII and CP Attachment C, Provision 19.

18. Plugging and abandonment of a Corrective Action System Background, POC, FBOC, POE, and/or APOE wells in Provision XI.B.1 shall be subject to the Compliance Plan modification provisions in 30 TAC '305 Subchapter D. Plugging and abandonment of Corrective Action Observation, Corrective Action System and/or Attenuation Monitoring Point wells in Provision XI.B.2, shall commence upon written approval of the Executive Director. The well shall be plugged and abandoned in accordance with requirements of this Attachment C. The Permittee shall certify proper plugging and abandonment in accordance with CP Table VII and CP Attachment C, Provision 19.

19. The Permittee shall complete construction or plugging and abandonment of each well in accordance with the requirements of this Compliance Plan and 16 TAC Chapter 76 and shall certify such proper construction or plugging and abandonment in the first report submitted pursuant to CP Table VII following installation or plugging and abandonment. Copies of the State of Texas Plugging Report filed with the Texas Department of Licensing and Regulation and completion logs for each newly installed or replaced well shall be included with the report. The certification shall be prepared by a qualified geologist or geotechnical engineer. Each well certification shall be accompanied by a certification report, including an accurate log of the soil boring, which thoroughly describes and depicts the location, elevations, material specifications, construction details, and soil conditions encountered in the boring for the well. A copy of the certification and certification report shall be kept on-site, and a second copy shall be submitted to the Executive Director. Required certification shall be in the following format, edited as appropriate, and shall specify the Compliance Plan Number as indicated:

"This is to certify that installation (or plugging and abandonment) of the following facility components authorized or required by TCEQ Compliance Plan No. (Insert CP number) has been completed, and that construction (or plugging) of said components has been

performed in accordance with and in compliance with the design and construction specifications of this Compliance Plan No. (Insert CP number):" (Add description of facility components with reference to applicable Compliance Plan provisions).

20. Wells may be replaced at any time the Permittee or Executive Director determines that the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of groundwater quality.

21. The Permittee shall plug soil test borings and wells removed from service after issuance of the Compliance Plan with a cement/bentonite grout mixture so as to prevent the preferential migration of fluids in the area of the borehole. Certification of each plugging shall be reported in accordance with Provision 19 of CP Attachment C of this Compliance Plan. The plugging of wells shall be in accordance with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging.